

## 401 STREETS

### 401.01 GENERAL

The character, width, grade, and location of all public streets shall conform to the standards in these Regulations and shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and in their appropriate relation to the proposed uses of the land to be served by such streets. Construction and material specifications for streets shall conform to Georgia DOT Standard Specifications for Roads, except as may otherwise be stated herein. Specifications and design criteria stated herein are for planning purposes. Design exceptions will be considered on a case-by-case basis and it is the responsibility of the developer and his engineer to identify the exceptions in the concept and preliminary design stages. Exceptions/variances will be subject to approval by the Director of the Cobb County Department of Transportation.

- Thoroughfares in developments shall be planned in conformity with the Comprehensive Plan, and the Major Thoroughfare Plan. These streets classified, or designated to be classified, as an arterial, major collector, or minor collector shall be developed per Section 401.20.
- The proposed development's street layout shall be coordinated with the street system of the surrounding area or with plans for streets in said area on file with the County, if any.
- If the developer desires to provide for street access to an adjoining property, proposed streets shall be extended by dedication to the boundary of such property and a temporary paved turn-around provided.

### 401.02 RIGHT-OF-WAY

MINIMUM RIGHT-OF-WAY PER STREET CLASSIFICATION\*

STREET CATEGORY	MINIMUM RIGHT-OF-WAY	AS MEASURED FROM CENTERLINE
Arterial	100'	50'
Major Collector	80'	40'
Minor Collector	60'	30'
Local (Residential Subdivision)	50'	25'
Non-Residential Local	60"	30'

\* Additional street right-of-way width may be required to be dedicated at intersections or other locations fronting the property where turning lanes, storage lanes, medians, or realignments are required for traffic safety and minimum right-of-way standards would be inadequate to accommodate the improvements.

\*\* Right-of-way variable depending upon roadway design and Cobb DOT approval.

#### Additional Right-of-Way and/or Pavement Widths

- Right-of-way for all abutting and internal public streets, existing and proposed, may be dedicated in accordance with the street classifications as shown on the Major Thoroughfare Plan, and as contained in these Regulations, or as otherwise required by the Board of Commissioners.
- On any existing street that abuts a property, one-half of the required width of right-of-way shall be dedicated to Cobb County as measured from the centerline of the roadway.

- Right-of-way miters are required at all intersections to provide area for adequate utility location and maintenance. Twenty (20) foot miters shall be provided at the right-of-way intersection of any major thoroughfare. Ten (10) foot miters shall be provided at the right-of-way intersection of any local and collector roads.
- If a new street or thoroughfare is funded by the Cobb DOT or the State of Georgia to adjoin or traverse the property, the proposed road right-of-way shall be incorporated into the development plans of the property in accordance with these regulations. These right-of-way requirements shall govern except where there exists clearly defined plans of the GA DOT or Cobb DOT, which require additional right-of-way. In that case, the greater right-of-way requirements shall govern.
- Any development with property fronting on an existing County road for which there exists clearly defined plans by the GA DOT or Cobb DOT, may be required to provide road improvements associated with the defined plans. In such cases, in lieu of the design and construction, at the discretion of the Board of Commissioners, the developer shall escrow the dollar equivalency of required improvements (including curbing, utility relocation, and drainage structures), as estimated by the developer and verified by the Cobb DOT Engineering Division. These funds shall be deposited in the appropriate road construction account prior to the Approval of Development improvements or within 30 days of County award of a construction contract, whichever occurs first.

#### **401.03 ROADWAY/LANE WIDTHS**

A minimum of 10-foot travel lanes is required on all streets. Roadway widths and lane assignments are typically based upon the functional classification of said roadway; for Major Thoroughfares see Section 401.20.

Roadway width and design may be variable based upon current and/or proposed operational characteristics of the roadway and is subject to Georgia D.O.T. and/or Cobb D.O.T. review and approval. Median divided roadways may be required with left-run bays and median breaks in lieu of center two (2) way left turn lanes.

#### **401.04 IMPROVEMENTS ALONG STATE HIGHWAYS**

For any development that abuts a state highway or other right-of-way controlled by the State of Georgia, improvements to the roadway and the location and design of any street or driveway providing access from the state highway shall comply with the standards and requirements of GA DOT. A permit for the proposed access or improvements shall be required to have been approved by the GA DOT and incorporated into the construction drawings for the project prior to issuance of a development permit by the Cobb County Community Development Agency.

#### **401.05 SUPERELEVATION AND RUN-OFF**

Widening sections along existing streets shall be designed reflecting existing curvature and superelevation, if any, unless the existing street has been included in a specific design by the County or GA DOT which calls for different standards, in which case the project will be coordinated with the overall design (excluding local residential streets).

Roadway edge curves shall be provided for tangent runout (bringing edge from a normal crown to centerline elevation) and superelevation runoff (from the end of tangent runout to the point of design superelevation) in accordance with design standards of AASHTO, latest edition.

#### **401.06 UNIMPROVED ROAD**

In the event that a subdivision and/or development has access to a substandard street (i.e., a dirt or gravel road), the following improvements shall be considered through a Development Agreement:

- If the abutting substandard street provides the primary means of access to the development and is dirt or gravel, the street shall be upgraded to the classification of the roadway from the end of the improvements required to the nearest standard paved road along the route of primary access.
- Where lots do not front onto, but the access is other than primary, in addition to the road widening requirements abutting the development access, a drainage ditch, shoulder, and adequate base shall be provided and the roadway paved on the opposite side of the road from the project, minimum of ten (10) feet from centerline to edge of pavement.
- Where lots do not front onto, but the access is other than primary, in addition to the road Off-site improvements required above, shall at a minimum result in a full-section roadway meeting the requirements of a local residential rural roadway of 24 feet, edge to edge of pavement, with drainage ditches as needed. Responsibilities shall be as follows:
- The developer shall design the road and provide the labor, equipment, and materials required for roadway improvements and necessary drainage improvements.
- All right-of-ways required for these off-site improvements shall be considered in the Development Agreement.

#### **401.07 INTERSECTION DESIGN**

For an intersection that contains at least one street classified in the Major Thoroughfare Plan, refer to Section 401.20.

##### **401.07.01 Angle of Intersection**

Intersections shall be at right angles and shall not be at an angle of less than 75° for reasons of safety, topography, interference with utilities, or separation from other driveways.

##### **401.07.02 Intersection Radius**

Intersection radii for all streets shall be measured at the back of curb or edge of pavement, if no curb exists. The minimum roadway radii for the intersection of local and residential collector streets is 25 feet. When a local or residential collector intersects a higher classification of roadway, the radii shall be a minimum of 30 feet. Larger radii may be required for streets intersecting at an angle of less than 90° or when a vehicle and operating circumstances dictate. The radii can be reduced a maximum of five feet for the following reasons:

- Separation from street or
- Removal of obstruction

##### **401.07.03 Intersection/Corner Sight Distance**

Intersections shall be designed with adequate corner sight distance for each street, which approaches a street of higher street category. Where necessary, back slopes shall be flattened and horizontal or vertical curves lengthened.

- The minimum corner sight distance requirement shall be calculated per Standard 401B.

##### **401.07.04 Vertical Alignment/Intersection Approaches**

For the intersections of local and residential collector streets, a leveling of the street at a grade not exceeding 2% shall be provided for a minimum tangent length of 25 feet. Exemptions are allowed for topographic considerations as determined by the design professional and the Director of Cobb DOT.

As a street approaches an intersection with a street classified in the Major Thoroughfare Plan, the approach shall be in accordance with the Plan Preparation Manual Engineering Division, latest edition.

Tangent length is measured from edge of pavement of the intersecting street to the point of curvature in the approaching street.

This grade for the landing may be 1%.

#### **401.07.05 Horizontal Alignment/Intersection Approaches**

New local streets, which approach an intersection with a street in a higher category on a horizontal curve having a centerline radius less than 240 feet, shall provide a tangent section of roadway at least 30 feet long. The tangent length shall be measured along the centerline of the street from the right-of-way line of the intersecting street extending to the point of tangency with the centerline of the curve section.

Minor and Major Collector classified streets in the Major Thoroughfare Plan shall provide tangent sections at intersections with streets in equal or higher categories as needed to provide adequate stopping sight distances at their design speeds; see Section 401.13.

#### **401.07.06 Stormwater Design for Intersections**

For intersections classified under the Major Thoroughfare Plan, sheet or concentrated flows of water will not be permitted through the intersection.

### **401.08 NEW/PROPOSED STREETS**

#### **401.08.01 General**

All proposed new streets shall be designed and constructed to the standards contained in these Regulations in accordance with the classification of said streets.

The arrangement of local streets shall permit practical patterns, shapes, and sizes of development parcels. Street layout must strike a balance with proposed land use so as to not unduly hinder the development of land. Distances between streets, angles of intersections, numbers of streets, and related elements all have a bearing on efficient lot layout of an area.

#### **401.08.02 Local Residential Streets**

Local streets shall be so laid out that cut through routes are not created. Where this cannot be accomplished optional traffic calming features will be considered by the Director of Cobb DOT on a case-by-case basis.

Local residential streets in other than PVC or UVC Zoning categories shall be 24 feet wide as measured from back of curb to back of curb. This provides for a 10-foot lane in each travel direction.

#### **401.08.03 Non-Residential Local Streets**

Local non-residential streets shall be laid out so that use by through traffic will be discouraged. The functional and operational characteristics of the roadway shall be to provide access to adjacent non-residential lots.

#### **401.08.04 Minor & Major Collector Streets**

Collector streets shall be provided to channel through traffic movements within a development as part of or in addition to the current thoroughfare network. Actual classification of said roadway will be determined by the Cobb DOT after review of the functional and operational characteristics of the roadway and adequate traffic study including, but not limited to trip generation data, as provided by the developer.

#### **401.09 CUL-DE-SACS**

Dead end streets designed to have one end permanently closed shall provide a cul-de-sac turnaround. Cul-de-sacs shall conform to the layout and dimensional requirements as shown in the Standard Details.

Non-residential cul-de-sacs shall have a 60" paved radius.

Non-standard cul-de-sacs will be evaluated individually and may be constructed with a landscaped island (subject to approval by the Fire Marshall) to be maintained by the Home-Owners Association in perpetuity.

#### **401.10 MINIMUM CENTERLINE OFFSETS AND INTERSECTION SEPARATION**

Streets shall either directly align or have offsets of a minimum of 125 feet for intersecting streets on opposite sides of the through street and a minimum of 250 feet for streets on the same side of the through street, as measured between centerlines of said streets.

#### **401.12 STREET GRADES AND DESIGN SPEEDS**

##### **401.12.01 Minimum Grades**

Minimum grade for all streets shall be 1½%.

Grades of less than 1½% may be approved by the Director of Cobb D.O.T, based on adequate engineering designs, where at least 1½% cannot reasonably be achieved due to topographical limitations imposed by the land. In such cases, an as-built drawing and such computations as necessary shall be provided after construction to establish that the street will drain in accordance with these regulations. Street sections where unacceptable pooling, excessive spread at catch basins, or other hazardous conditions occur shall be reconstructed or otherwise improved to eliminate such conditions.

##### **401.12.02 Maximum Grades**

Maximum grade for all local residential streets shall be 18%. Grades between 14% and 18% shall require an "as graded" survey prior to the installation of the curb or utilities.

MAXIMUM GRADES	
STREET CATEGORY	MAXIMUM GRADE
Arterial	8%
Major Collector	10%
Minor Collector	12%
Local	18%
Non-Residential Local	14%

Maximum grade on any cul-de-sac turnaround shall be limited by drainage concerns. Negative grade cul-de-sacs will require vertical face curbing.

Maximum grade in excess of those listed above may be approved by the Director of Cobb D.O.T. or his/her designee in order to address topographical safety, hydrological, and environmental concerns.

#### **401.12 VERTICAL ALIGNMENT**

Vertical alignment must be designed in conjunction with the horizontal alignment. All changes in street profile grades having an algebraic difference greater than 1% shall be connected by a parabolic curve.

Minimum safe stopping sight distance is a direct function of the design speed of 25 mph in residential and 35 mph in local, non-residential, and commercial areas. A height of eye of 3½ feet and height of object of ½-foot is used to determine safe stopping sight distance. See Standard Detail 108.

The minimum length of vertical curve required for safe stopping sight distance shall be calculated using AASHTO "Policy on Geometric Design of Highways and Streets", latest edition.

#### **401.13 HORIZONTAL ALIGNMENT**

For streets classified by the Major Thoroughfare Plan, see Section 401.20.

##### **HORIZONTAL CURVES**

STREET CATEGORY	MINIMUM RADIUS (FT)	MAXIMUM SUPERELEVATION
Local	100	Normal Crown
Non-Residential Local	150	Normal Crown

As a traffic-calming feature, provide a maximum tangent length of 500 feet between slow points such as a curve with a centerline curvature radius between 300 feet and 100 feet. Where this cannot be accomplished, optional traffic calming features will be considered by the Director of Cobb DOT on a case-by-case basis. Consideration for shape of property, topography, and environmental features will be accepted.

A minimum tangent is required between reverse curves to facilitate steering and control. Between reverse horizontal curves there shall be not less than the minimum centerline tangents shown in the following table. Compound radii curves are prohibited, except local residential streets.

##### **TANGENTS**

STREET CATEGORY	MINIMUM TANGENT LENGTH
Local	50 Feet
Minor & Major Collector	100 Feet
Non-Residential Local	75 Feet

#### **401.14 PAVEMENT SPECIFICATIONS**

##### MINIMUM CONSTRUCTION STANDARDS\*

STREET CATEGORY	BASE	BINDER	TOPPING
Local	6" GAB	1½" B	1½" E

\* **NOTE:** Unless otherwise specified by Cobb County DOT or GA DOT.

Pavement of sections of existing roads of less than 4' in width shall have a minimum of 6" Class "B" concrete base and 1" asphaltic topping.

For non-residential local streets and industrial park developments the pavement section, shall be 10" of GAB, 4" of asphaltic base, 2" of binder, 1½" type "E" topping, and bituminous tack coat applied per GA DOT specifications.

Engineers can submit alternate pavement designs.

#### **401.15 CURBS AND GUTTERS**

All new streets or street widening sections shall be provided with curb and gutter except where noted otherwise within these regulations or where not required per zoning, where ditches may be provided in lieu of curbing. All gutters shall drain positively with no areas of ponding.

##### **401.15.01 Curbing**

Concrete shall be Class "A" (as defined by GA DOT) and have a minimum strength of 3,000 psi at 28 days.

Typical minimum section (residential subdivision only) shall be 6" x 24" x 12" for vertical curb (see Standard Detail # 106) unless otherwise specified by Cobb DOT or Georgia DOT. A six (6") inches by thirty (30") inches by twelve (12") inches section may be required on non-residential local and collector roads.

½-inch expansion joints or pre-molded bituminous expansion joint material shall be provided at all structures and radius points and at intervals not to exceed 250 feet in the remainder of the curb and gutter as shown on Standard Detail 106.

When the development ties into existing curbing, the curb and gutter shall match the existing width.

##### **401.15.02 Minimum Grades**

Curb and gutter shall be set true to line and the grade of the street, horizontally field staked, and finished to the section shown on the plans. Along the widening section of a road, which Cobb DOT has identified for resurfacing within one year of the construction, the grade of the new gutter shall be placed one inch above the widening pavement grade in areas where drainage will not be adversely affected.

Line and grade shall be set by developers' engineer or surveyor.

##### **401.15.03 Other Requirements**

Inferior workmanship or unprofessional construction methods resulting in unacceptable curb and gutter will be cause for rejection of the finished work. Disturbed areas along all curbing shall be back-filled, stabilized, and grassed.

#### **401.16 SUB-GRADE PREPARATION**

- Sub-grade preparation on all non-local streets shall be in accordance with GA DOT specifications and these Regulations. Sub-grade preparation for local streets shall meet and pass proof roll testing.
- If any section of the sub-grade is composed of topsoil, organic, or other unsuitable or unstable material, such material shall be removed and replaced with suitable material and then thoroughly compacted as specified for fill, or stabilized with stone or a geo-textile or geo-grid.
- Fill shall be placed in uniform, horizontal layers not more than eight inches thick (loose measurement). Moisture content shall be adjusted as necessary to compact material to 95% of maximum dry density except for the top twelve inches, which shall be compacted to 100% of maximum dry density.
- After the earthwork has been completed, all storm drainage, water, and sanitary sewer utilities have been installed within the right-of-way as appropriate, and the back-fill in all such ditches thoroughly compacted, the sub-grade shall be brought to the lines, grades, and typical roadway section shown on the plans.
- Utility trenches cut in the sub-grade shall be back-filled as specified herein. Compaction tests at the rate of one per 150 feet of trench shall be provided to verify compaction.
- The sub-grade must pass proof roll testing regardless of compaction test prior to placement of the base material. With the approval of the Community Development Agency, a geo-textile or grid may be used to stabilize a sub-grade that does not pass proof-rolling.
- Provisions shall be made to drain low points in the road construction when the final paving is delayed. A break in the berm section is required when the curbing has not been constructed. After installation, drainage under the curb is required.

#### **401.17 SIGNING AND STRIPING**

Traffic Control Devices (signs and pavement markings) are normally provided by the Cobb County Department of Transportation on local residential streets. On major thoroughfares and for non-residential development, signs and pavement markings are to be provided by the developer. For standard marking and raised pavement marker installations, contact Cobb DOT. The traffic control devices must comply with the MUTCD and be approved by Cobb DOT. No traffic control devices shall be installed without prior approval by Cobb DOT.

#### **401.18 STREET LIGHTS**

In accordance with the Cobb County Street Lighting Ordinance, Section 3-23-41, street lights shall be provided by the developers of all new subdivisions or other developers utilizing roads or any combination, unless waived by the Board of Commissioners. The applicable power company will design a lighting layout and submit it to Cobb DOT for approval. Upon approval, the developer will pay the power company for all costs associated with the installation. Building permits and water meters will not be issued until this requirement is satisfied.

#### **401.19 STREET NAMES AND ADDRESSES**

##### **401.19.01 Street Addressing**

The Community Development Agency has the responsibility of maintaining the street addressing system throughout the county, and coordinates with the Public Safety Agency, the E911 Communication Bureau, the Department of Transportation/Operations Division and the U.S. Postal Service (USPS). The goal is to ensure that addresses are assigned and properly maintained in a logical, sequential order for the purposes of locating property anywhere in the county. An accurate



addressing system facilitates quicker response times for emergency services, and provides efficient mail delivery. Correct property identification is also necessary for locating utilities.

***Street numbers and addresses shall be assigned, changed and/or corrected where deemed necessary to assure the health, safety, and welfare of all Cobb County residents and property owners.*** Street names must be verified by the Development and Inspections Division before a preliminary subdivision plat can be approved. Street numbers shall be posted and maintained in a prominent place on the property (i.e. building façade, mail box, signage, ect.), which is visible from the street providing public access (Official Code of Cobb County, Georgia Chap. 106, Sec. 106-2). The numbers shall be posted in the following manner:

1. For residential properties, in figures at least one inch (1") high with a contrasting background; and
2. For commercial properties, in figures at least two inches (2") high with a contrasting background.

Cobb County utilizes a grid system for assigning street names and numbers. The reference point (or zero point) of the grid is located at the Marietta Square in the county seat of Marietta, Georgia. The base line between north and south part of the county is at Whitlock Avenue. The base line between the east and west part of the county is at Church street. Directional base lines are extended to the county's boundaries thus creating four quadrants designed N.E., N.W., S.E., and S.W. Street numbers increase as one moves away from the base lines.

#### **401.19.02 Street Numbering Procedures**

***All property address numbers are assigned by the Community Development Agency/Development & Inspections Division*** (OCGA Chap. 1q10, Sec. 110-85).

Typically, a property located on the ***right*** side of a street is given an ***even*** number as numbers increase. Conversely, a property located on the ***left*** side of the street is given an ***odd*** number as numbers increase. Numbers are always referenced from the address grid base lines. Generally, address numbers will increase sequentially as they move away from the zero point.

#### **Street Naming and Selection Procedures**

***All street names are subject to the approval of the Community Development Agency/Development & Inspections*** (OCGA Chap. 110, Sec. 110-85) the following guidelines are used when assigning street names:

1. Proposed streets that are obviously in alignment with other existing, named streets shall bear the names of such existing streets. Once a name is assigned to any alignment, it may not change anywhere along the extension of that alignment.
2. A street name combination (primary name/type/suffix) may be used only once and may not be used in any other alignment.
3. Except within the same project, no proposed street name shall duplicate an existing street name within Cobb County regardless of the use of any type such as "street", "avenue", "boulevard", "drive", "place", "way", "court", or other designation.
4. All streets shall bear the proper quadrant suffix (i.e. N.E., N.W., S.E., S.W.).
5. Proposed new names shall be reviewed for correct usage and reasonable meanings consistent with the language used. Such review shall also include correct spelling.

6. Street names shall not include directional words such as north, south, east or west, or the words "old" or "new".
7. A street name should be pleasant sounding, appropriate and easy to read so that the public and children, in particular, can communicate the name in an emergency situation.
8. Street names tending to be confused as homonyms (similar names spelled differently) are not acceptable.
9. Names derived from a foreign language are unacceptable.
10. Names that tend to be slurred, or have pronunciations that run together are unacceptable.
11. Street names with the same theme (i.e. flowers, states, etc.) are suggested for naming streets in an entire subdivision, as means of general identification, rather than duplicating the conventional name differentiated only by the street type (suffix).

#### **ADDRESSING FOR COMMERCIAL PROPERTIES**

1. A current "Full Site" Land Disturbance Permit (LDP) for the parcel proposed for development must be issued by the Community Development Agency. This is required before a request for a street address will be processed. An approved copy of the site plans for the project must be presented at the time of application, or the 6-digit LDP number must be made available for reference.
2. ***A field check of the property may be necessary if a proper address cannot be established.*** Property is typically identified by legal description (i.e. land district, land lot and parcel location). The site plans for a project are examined, the property is located on the tax map, and the correct address number range is established.
3. A Street number conforming to sequential order established by the grid system is selected. If the number has not been duplicated anywhere in the county, an official property address is issued to the parcel.

#### **Addressing For Residential Properties**

For new residential subdivision, street names are determined during the preliminary plat review and approval process. Names are only approved if the street name, including street type (suffix) is unique within the county.

#### ***For a single family residential property located outside of a subdivision, the following process will apply:***

1. A site plan based on a recent survey must be provided. The tract must be a legal "lot of record" as recorded by plat in the Office of the Clerk of Superior Court.
2. The site plan must be approved by the Community Development Agency/Zoning Division for applicable zoning requirements.
3. The driveway location for the property must be approved by the Department of Transportation/Operations Divisions for access onto a minor, major or arterial road.
4. Since this type of tract is not typically a candidate for a LDP and does not come through the formal plan review process, it must be reviewed individually on a case-by-

case basis. Each property is unique and may be subject to further review and requirements (i.e. county or state stream buffers, floodplain areas, variance stipulations, septic or sewer approvals, etc.)

5. A field check of the property may be necessary to ensure that the new street address is in sequence. When appropriate number is determined, an official property address notice is issued.

## **401.20 MAJOR THOROUGHFARES**

### **401.20.01 Process**

Roadways, streets, or highways that are shown on the Cobb County Major Thoroughfare Plan to be classified as arterials, major collectors, or minor collectors shall conform to this section. Also, new roadways that the County determines to be classified as major thoroughfares shall conform to this section. All roadways proposed for industrial use shall conform to this section.

Because major thoroughfares carry a higher volume of traffic and a higher rate of speed than the lower classified roadways, the planning, design, and construction of these roadways must conform to higher standards.

New, modified, or improved major thoroughfares must be coordinated with the existing Major Thoroughfare Plan and all future planned roadways on file with the County, State, or City.

The design of the roadway shall be performed by an engineering firm pre-qualified with Cobb DOT or who shall become pre-qualified prior to performing the services involved. Cobb DOT maintains a list of pre-qualified engineering firms for all the categories of roadway, bridge, environmental, surveying, traffic engineering, and geotechnical services involved with roadway projects.

Plans prepared for these roadways will not be eligible for the "One Stop" or the standard plan review process. The plan review process shall be as follows:

- Concept Plan & Traffic Study
- Preliminary Engineering
- Right-of-Way Plans
- Final Construction Plans (including pavement design)

Plans shall conform to chapters 18 through 23 of the Cobb DOT *Roadway Plans Preparation Manual*, latest revision, and the *AASHTO Policy on Geometric Design of Highways and Streets*, and the *Georgia Department of Transportation Standard Specifications for Construction of Roads and Bridges*, latest edition. The design shall utilize the Georgia DOT construction standards and details.

If the County is to fund, participate, or otherwise share the cost of any part of the construction of the roadway or related infrastructure, the design services must conform to Cobb's standard *Consultant Services Agreement*, latest revision.

If the County is to administer the construction contract (bid the project) the plans shall be prepared in accordance with all chapters of the Cobb DOT *Roadway Plans Preparation Manual*, latest edition.

### **401.20.02 Specifications**

Specifications and design criteria stated herein are for planning purposes. Design exceptions will be considered on a case-by-case basis and it is the responsibility of the developer and his engineer to identify the exceptions in the concept and preliminary design stages. Exceptions/variances will be subject to approval by the Director of the Cobb Department of Transportation.

## **Right-of-Way**

MINIMUM RIGHT-OF-WAY PER ROADWAY CLASSIFICATION

FUNCTIONAL CLASSIFICATION	RIGHT-OF-WAY, TOTAL WIDTH
Arterial - 5 lane	100'
Arterial - 4 lane divided	110'
Major Collector	80'
Minor Collector	60'

- Additional right-of-way width may be required to be dedicated at intersections or other locations where turning lanes, medians, traffic signal poles and controllers, or other improvements are required and the minimum right-of-way standard would be inadequate to accommodate the improvements.
- For existing roadways being improved or modified where the proposed centerline of the pavement to right-of-way is less than  $\frac{1}{2}$  the width shown herein, the additional width will be required for all property fronting the roadway.
- Right-of-way mitres are required at all intersections and are dependent on the size of the intersection curb radii.
- Permanent and temporary easements will be required and shall conform to the Cobb County Plans Preparation Manual.
- Deeding of right-of-way is covered in Dedication of Right-of-Way and Easements, Section 205.

## **Roadway/Lane Width**

- Roadway widths, curb, and gutter dimensions are based on the Functional Classification of the Roadway. Lane widths for non-residential roads shall be (12) twelve feet unless otherwise approved by the Director.
- If any part of the roadway improvements is within the limits of the GA DOT jurisdiction, the lane widths shall comply with the State's requirements.
- For right-of-way and lane width requirements for multi-lane urban section streets, see Standard Details.

## **Intersection Design**

- Angle of intersection
- Intersections for new roadways shall not be at an interior angle less than 85° unless the intersection is otherwise warranted and approved for a stop-and-go traffic signal in which case the minimum angle shall be 80°.
- Intersections of existing roadways shall be reviewed on a case-by-case basis using AASHTO, latest edition guidelines.

- Intersection radius
- Intersections radii for new roadways shall be as follows:  

35' for Minor Collectors  
40' for Major Collectors  
50' for Arterials
- Larger radii will be required if channelized right turn lanes are proposed.
- Larger radii will be required if the intersecting angle of the roadways is less than 85°.
- Traffic Signals
- Intersections on thoroughfares with another roadway classified as a major thoroughfare shall require a traffic study utilizing Highway Capacity Software and the MUTCD, latest editions, signal warrants. Additional intersections may require a traffic study. See the Cobb County Consultant Services Agreement for additional traffic study requirements.

#### **401.20.03 Maximum Grades and Superelevation**

FUNCTIONAL CLASSIFICATION	SUPERELEVATION (emax)		MAX. GRADE
	URBAN	RURAL	
Arterial	.04	.06	8%
Major Collector	.04	.06	10%
Minor Collector	.04	.08	12%

#### **401.20.04 Pavement Sections**

(Per GA DOT Specifications)

FUNCTIONAL CLASSIFICATION	STONE BASE	ASPHALT BASE	BINDER	TOPPING E OR F
Arterial or Collectors	10" GAB	4" A.C.	2" B	1 1/2"

\* Additional structural pavement section may be required.

#### **401.20.05 Bikeways**

The Cobb County Bikeway Plan shall be reviewed by the developer and his engineer and incorporated into the concept stage of the plan preparation. If bikeways are to be provided, three to four feet of additional pavement width on both sides of the roadway will be required. Additional right-of-way may be required. Residential subdivisions shall be excluded.

#### **401.20.06 Non-Motorized Accommodation**

Cobb County encourages non-motorized accommodation (i.e., bicycle, pedestrians, etc.) design in accordance with routes designated on the adopted Cobb County Bicycle Plan.

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## **402 ACCESS**

### **402.01 GENERAL**

Driveways provide access to property and are a service to the traveling public. However, vehicles entering or leaving driveways may disrupt the flow of traffic on streets and cause accidents, thereby infringing on the rights of the public to travel the roadway. All driveways should be restricted to locations where movements into and out of them can occur in a safe and orderly manner.

Because of their simple appearance, driveways often do not receive sufficient design consideration. At the least, driveways should always be designed to eliminate or minimize opposite lane encroachment while entering and exiting property.

All driveways are to be designed and constructed to provide turning radii for appropriate design vehicles sufficient to minimize adjacent lane encroachment. For commercial driveway requirements see Standard Detail 116.

All driveways are to be designed and constructed with sidewalk transitions as appropriate.

All driveways are to be considered low volume intersections and to comply with minimum Intersection/Corner Sight Distance requirements of these regulations.

### **402.02 ACCESS FROM THOROUGHFARE STREETS**

In order to provide ease and convenience in ingress/egress to private property and the maximum safety with the least interference to the traffic flow on thoroughfares, there shall be the minimum number of access points to adequately serve the development. The number and location of driveways shall be regulated.

When property frontage is less than 200 feet, only one driveway shall be considered for approval. Additional entrances/exits for property having street frontage in excess of 200 feet may be considered by Cobb DOT upon a showing that such additional entrances/exits are necessary and would not increase traffic congestion or otherwise reduce the safety and convenience of the traveling public.

To allow for proper corner clearance, the minimum tangent curb length between a driveway radius and an intersection shall be 100 feet.

If the closest intersection is or is likely to be signalized, traffic movements to and from any driveway within 250 feet of an intersection with (as measured from the point of tangency) a collector or an arterial shall be limited to right turns only.

### **402.03 ACCESS LIMITATIONS FOR DEVELOPMENT ADJACENT TO THOROUGHFARES**

All access points and driveways adjacent to thoroughfares may be subject to further restriction and consideration as may be deemed necessary by the GA DOT and/or Cobb DOT to insure safe, functional design and efficient operation of the thoroughfares.

A maximum number of 200 residential dwelling units shall be allowed one street outlet on an existing public street. If a second access to an existing public road is not available or, in the opinion of Cobb DOT, would encourage non-residential traffic to traverse the development, a single entrance may be allowed if designed with sufficient right-of-way and improvements to provide a protected left-turn lane, subject to the approval of Cobb DOT.

For non-residential developments, improvements to provide a separate left-turn lane shall be considered on a case-by-case basis.

Access to all residential lots shall be from interior subdivision streets or roads where possible. Exceptions are subject to approval from the Director of the Department of Transportation. Subdivisions of three or less lots may be exempted upon approval by the Director DOT or his/her designee with proper consideration of safety, hydrological, and environmental concerns.

No catch basins will be allowed within access/driveway radii (turning radii).

#### **402.04 SERVICE DRIVES**

Where a development borders on or contains a limited access roadway right-of-way, or arterial road right-of-way, GA DOT and/or Cobb DOT may require a service drive or suitable provisions for future service drives approximately parallel to and on each side of such right-of-way, at a distance suitable for the appropriate use of the intervening land. Distances involving rights-of-way shall also be determined with due regard for the requirements of approach grades and future grade separations.

All driveways along designated thoroughfares with existing or planned service roads shall access to such service roads. To gain temporary direct access to the thoroughfare, the developer shall construct the section of the service road adjacent to the development. The service road section shall be located where planned. Any right-of-way not previously dedicated shall be dedicated prior to consideration of a temporary driveway approval providing direct access to the thoroughfare.

#### **402.05 MEDIAN OPENINGS**

##### **402.05.01 Location**

Unless the Board of Commissioners or other jurisdictional authority has established a more restrictive policy, no median opening shall be spaced at a distance less than 660 feet from any other median opening (measured from nose to nose) unless specifically approved by Cobb DOT on a finding that, given the particular conditions of the proposed development, such determination will not compromise traffic operational and safety standards.

##### **402.05.02 Design Criteria**

All median openings shall include at least 200 feet storage with 100 transition unless otherwise acceptable to Cobb DOT based on a traffic study. Increased storage and transition lengths may be required to eliminate disruption of through-traffic flow.

#### **402.06 BUILDING SETBACKS ADJACENT TO THOROUGHFARES**

Any building constructed along a thoroughfare as defined by the Cobb County Major Thoroughfare Plan, and as amended from time to time, shall have a minimum setback from the required right-of-way as required by the Zoning Ordinance, and as amended from time to time.

#### **402.07 RESIDENTIAL DRIVEWAY STANDARDS**

##### **402.07.01 Residential Driveways**

Residential driveways provide a primary means of access to single-family residential uses.

Along collector and arterial roadways, residential driveways are to be designed and constructed to the following standards. GA DOT Standard # 6050 may be substituted, if prior approval is made by the Cobb DOT.

- Width - Minimum 12', Maximum 24' on right-of-way
- Radii or flare - Minimum 5'



- Spacing from street intersection - Minimum 50'
- Angle of intersection with street/roadway - Approximately right angled 80° to 100°
- Corner/intersection sight distance - To comply with corner/intersection sight distance requirements of roadway intersected with the driveway as per these regulations.
- Landing grade - Compatible with shoulder grade
- Length - A minimum of 25' or to the edge of the County or State right-of-way, whichever is greater, shall be paved with a treated hardened surface.

\*Rural residential driveways may be constructed with an asphalt pavement section, if approved by the Cobb County DOT.

#### **402.07.02 Driveway Drainage Pipes**

A residential driveway constructed at a location along a rural roadway has or should have a ditch along the roadside for the purpose of collecting, channeling, and controlling storm water runoff. In addition to the design and construction requirements, rural residential driveways shall be constructed with culverts to conduct storm water underneath the driveway and shall be:

- Concrete, corrugated metal pipe, or other type of culvert approved by Cobb County;
- Sized to accommodate the 10-year storm, as a minimum;
- Provided with flare-end sections at the inlet and outlet;
- Of sufficient length to accommodate a minimum of 2-foot shoulders at each end of the driveway with a maximum side slope of 2:1 to the bottom of the ditch line; and,
- Installed in a ditch of minimum 2-foot wide flat bottom with sides sloped at a grade no greater than 2:1 stabilized with acceptable vegetation.

#### **402.08 NON-RESIDENTIAL DRIVEWAYS**

Driveways servicing developments shall provide uninterrupted ingress/egress to and from the site. The minimum distance required is measured from the street right-of-way line at the ingress/egress to the outer edge of any interior service drive or parking space with direct access to such driveway as measured perpendicularly from the street. The length of the uninterrupted ingress/egress is determined by the maximum peak hour volume of the facility in which the driveway is provided and as shown in the table below. The developer shall provide this information.

MAXIMUM PEAK HOUR VOLUME	UNINTERRUPTED INGRESS/EGRESS
UP TO 50 VEHICLES	25'
50 TO 200 VEHICLES	50'
Vehicles 200 and Up	100'

Non-residential driveways shall not be designed or marked to allow more than one lane of traffic to exit onto a street simultaneously, unless such driveway is channelized in accordance with traffic engineering design principles as applicable when designing channelized street intersections.

As may be requested, left-turn driveway lanes shall be a minimum of 12 feet wide and provide a minimum 150 feet storage with 100 feet transition.

Non-Residential driveways are to be constructed to the following standards:

- Width - Minimum 24' two way access  
\*Maximum 32' two way access  
Minimum 14' one way access  
Maximum 18' one way access
- Radii - Minimum 30'  
Maximum 50'
- Spacing from street intersection- Minimum one hundred (100') feet tangent
- Composition - Shall meet or exceed the same specification as the connecting public roadway
- Drainage - Consistent with existing drainage plan of the connecting public roadway unless other improvements are required for safety, hydrological and environmental considerations
- Angle of intersection with roadway - Approximately right angled 80° to 100°
- Corner/intersection sight distance - To comply with corner/intersection sight distance requirements of roadway intersected with the driveway as per these regulations
- Landing grade -  $\pm 2\%$  of intersecting roadway within the right-of-way

\* Driveway designs other than as provided within these regulations, i.e., median divided or additional lanes, are subject to consideration of the GA DOT and/or Cobb DOT.

#### **402.09            ACCELERATION/DECELERATION LANES/ ROADWAY IMPROVEMENTS ALONG EXISTING STREETS**

Cobb County may require a deceleration and/or acceleration lane for all developments. Requirements for constructing the lane(s), that will be evaluated by Cobb DOT, include (but are not limited to) sight distance, posted speed limit, classification of the existing street, volumes on the existing street, volumes to be generated by the development, vertical curvature, horizontal curvature, length of property road frontage, hydrological, and environmental concerns. During the evaluation of the development's entrance, additional improvements, such as tapers, left turn lanes, by pass lanes, median modification, or other facilities, may be required to enhance safety and operations. The developer should contact Cobb DOT at the earliest possible time to request the evaluation so that the appropriate construction plans are prepared and submitted through the plan review process.

## **403 OFF-STREET PARKING FACILITIES**

### **403.01 GENERAL DESIGN REQUIREMENTS**

#### **403.01.01 Street Access**

Each building shall be located on a lot or parcel, which abuts a public street for at least 50 feet. Access to a public street by means of a recorded access easement may be permitted if approved by the Board of Zoning Appeals or Board of Commissioners.

#### **403.01.02 Street Access - Curb Cuts in Other than "R" Districts**

Curb cuts for service drives, entrances, exits, and other similar facilities on public streets in other than "R" Districts shall not be located within one hundred (100') feet of any intersection or within 40 feet of another curb cut. A curb cut shall be no greater than 40 feet in width and no closer than 20 feet to any property line. (Ordinance of February 7, 1979, § 2)

#### **403.01.03 State Highway Department Approval**

All entrances or exits of any street or drive, public or private, from or to any State highway shall be approved by the State Highway Department prior to the construction of such street or drive, or the issuance of any development permit for any improvement to be served by such street or drive, but permit approval shall not be held longer than 30 days.

#### **403.01.04 Corner Visibility Clearance**

In any district no fence, structure sign, planting, or other obstruction (above a height of three feet) shall be maintained within 15 feet of the intersection of the right-of-way lines extended of two streets or of a street intersection with a railroad right-of-way.

#### **403.01.05 Off-Street Automobile Parking**

Off-street automobile parking shall be provided in accordance with all applicable provisions of this section.

#### **403.01.06 Design Standards**

All parking facilities, including entrances, exits, and maneuvering areas shall comply with the following provisions:

- Shall have access to a public street;
- Shall be graded and paved, including access drive(s), and be curbed when needed for effective drainage control;
- Shall have all spaces marked with paint lines, curbstones, or other similar designations;
  - Each space set at a 90° angle shall have not less than 162 square feet and shall not be less than 8 feet 6 inches wide and 19 feet deep, exclusive of passageways, which shall be not less than 24 feet wide;
  - Each space set at a 60° angle shall have not less than 176 square feet and shall be not less than 8 feet 6 inches wide and 20 feet 8 inches deep, exclusive of passageways, which shall be not less than 18 feet 6 inches wide; Each space set at a 45° angle shall have not less than 165 square feet and shall be not less than 8 feet 6 inches wide and 19 feet 5 inches deep, exclusive of passageways, which shall be not less than 13 feet 6 inches wide;

- There shall be adequate interior drives to connect each space with a public street;
- Shall be drained to prevent damage to abutting properties or public streets;
- Adequate lighting shall be provided if the facilities are to be used at night. Such lighting shall be arranged and installed not to reflect or cause glare on abutting properties or roadways and shall be subject to the lighting requirements in § 3-28-16.3;
- Any parking areas within the required front yard of any RM or office district shall not be closer than ten feet to any public right-of-way; and
- No parking or loading area shall be established in the required front yard of any "R" District except for a single-family residential use; no more than 35% of the required front yard may be used for parking and total impervious surface in such case.

The provisions above shall not apply to single-family residential uses where three or less spaces are required, except that it shall have access to a public street.

#### **403.01.07 Location**

All parking facilities shall be located in accordance with the following provisions:

- The required space shall be provided on the same plot with the use it serves, except as provided herein;
- If vehicular parking or storage space required cannot be reasonably provided on the same lot on which the principal use is conducted, the Board of Zoning Appeals may permit such space to be provided on other off-street property provided such space lies within 400 feet of the main entrance to such principal use. Such vehicular parking space shall be associated with the permitted use and shall not hereafter be reduced or encroached upon in any manner; and
- The required parking space for any number of separate uses may be combined in one lot, but the required space assigned to one use may not be assigned to another use at the same time, except that one-half of the parking space required for churches, theaters, or assembly halls whose peak attendance will be at night or on Sunday may be assigned to a use which will be closed at nights or on Sundays.

#### **403.01.08 Location and Surface of Parking Areas**

The parking of any vehicle on any lot in any district on other than a surface treated and hardened to accommodate such vehicle is prohibited except as provided herein. In addition, parking of vehicles in the front yard or in front of the principal building line in an "R" District shall be prohibited except on a hard-surfaced driveway or in a carport or garage.

#### **403.01.09 Required Spaces**

The number of parking spaces or area required for a particular use can be located in the Cobb County Code, 134-272, as may be amended from time to time.

#### **403.02 FUNCTIONAL ELEMENTS OF ON-SITE CIRCULATION SYSTEM**

An on-site circulation plan shall be prepared to provide uninterrupted ingress/egress in accordance with section 402.08

## **404 SIDEWALKS AND PATHWAYS**

Cobb County is actively pursuing the continuation of an integrated and multi-modal transportation system that promotes compliance with the federal Clean Air Act by emphasizing the need to create increased pedestrian travel opportunities by expanding the sidewalk network and developing a pathway program. Whenever possible, developers will be encouraged to construct sidewalk along the right-of-way abutting their developments. The pathway program takes pedestrian access one step further by providing safe, convenient access to activity centers such as schools, park, and shopping centers in an effort to encourage pedestrian and non-motorized vehicular travel. The county will support and encourage a viable network of off-street travel routes that can reduce the need for and volume of vehicular traffic throughout the county.

### **GENERAL SIDEWALK REQUIREMENTS**

When a subdivision project abuts a public right-of-way, sidewalks shall be required for a length equal to the distance of the required road improvements along the road frontage. Sidewalks will be required to be constructed on both sides of the road (if development abuts both sides of the road) when the road is classified as an arterial, major collector, or minor collector roadway by the Thoroughfare Plan. Sidewalks shall be constructed on all remaining streets that qualify for such requirements under the Sidewalk Ordinance. Sidewalk location and orientation may be altered under site-specific conditions at the discretion of the Director of the Department of Transportation.

Amenity areas must be accessible by sidewalks from the nearest sidewalk in the subdivision. All sidewalks must be installed prior to the acceptance of the subdivision by Cobb County unless a performance security or letter of intent is in place at the time of acceptance.

Sidewalks will not be required in subdivisions zoned to an R-80 classification or approved for a rural road classification and will be considered exempt.

Sidewalks will be constructed to the specification as shown on Standard Detail #113 and located a minimum of three feet back of the curb. Sidewalk location can be varied at the discretion of the Director of the Department of Transportation with prior approval.

Sidewalks shall have a minimum width of four (4) feet for interior residential streets, five (5) feet for exterior and non-residential or as required by ADA or the Georgia Accessibility Code.

The concrete shall have a compressive strength of 3,000 pounds per square inch at 28 days and a minimum depth of four inches.

Builders are required to install sidewalk per Cobb County Sidewalk Plan prior to issuance of a Certificate of Occupancy.

### **GENERAL PATHWAY REQUIREMENTS**

When a subdivision project includes a creek with associated floodplain, Cobb County will ask that the developer convey a twenty (20') foot section of flood plain along the creek as public right-of-way in an effort to develop a network of pathways along the creeks throughout Cobb County. When a subdivision project includes multiple or long cul-de-sacs, Cobb County will encourage the developer to convey a twenty (20") foot permanent public access easement between lots; connecting cul-de-sacs to other cul-de-sacs, other subdivisions, and other existing pedestrian access facilities.

- The dedicated public right-of-way or permanent public access easement for the pathway will have a width of twenty (20) feet.
- Pathways will be constructed to the specification as shown on Standard Development #120, unless otherwise approved by the Director of Cobb Department of Transportation.
- Pathways will not be required to connect right-of-way along which no pedestrian access exists or is planned.

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## **405 ACCESSIBILITY REQUIREMENTS**

Georgia law relating to the access to and use of facilities by persons with disabilities is set forth at O.C.G.A. Sec. 30-3-1, et. seq. The law "is intended to eliminate, insofar as possible, unnecessary physical barriers encountered by individuals with disabilities or other individuals, and whose use of government buildings and facilities by the public is restricted."

Local governing authorities, including Cobb County, are responsible for the administration and enforcement of the Code with regard to all government and public buildings and facilities which are not under the jurisdiction of the Safety Fire Commissioner or Board of Regents. O.C.G.A. Sec. 30-3-7.

### **I. Adoption & Incorporation by Reference of State Statutes.**

#### **A. State Statute (O.C.G.A. Sec. 30-3-1, et seq.)**

The Georgia Accessibility Code, O.C.G.A. Sec. 30-3-1, et seq., is adopted and included, in its entirety, by reference, and made part of Section 405 of the Cobb County Development Standards and Specifications. A brief overview is included for ease of access. Copies of the Georgia law may be found in O.C.G.A.

#### **B. Safety Fire Commissioner Rules & Regulations**

The Rules & Regulations of the Georgia Safety Fire Commissioner, authorized pursuant to O.C.G.A. Sec. 30-3-7 (h) as may be amended from time to time, are also adopted and included in their entirety, by reference, and made part of Section 405 of the Cobb County Development Standards and Specifications. A overview is included for ease of access.

### **II. Summary of Statutory Requirements**

#### **A. State Statutes: O.C.G.A. Sec. 30-3-1, et. seq.**

##### **1. Building Permit Requirements: Architect's Seal**

Pursuant to the Georgia Accessibility Statute, no building permit for buildings or facilities to be approved by the local governing authority may be approved unless the plans and specifications conform to the requirements of O.C.G.A. Secs. 30-3-3 and 30-3-5 and unless the architect or engineer responsible for preparation of the plans and specifications affixes that person's seal to such plans. The affixing of the seal of the architect to the plans constitutes a certification that to the best of that person's knowledge, information, and belief, they have been prepared in conformity with Sections 30-3-3 and 30-3-5. (See OCGA Sec. 30-3-7 (c))

##### **2. Standards and Specifications**

The standards and specifications for compliance as set forth in OCGA 30-3-3 and 30-3-5 are as follows:

###### **a. OCGA Sec. 30-3-3**

This section provides that permits for construction or renovation of government buildings, public buildings and other facilities after July 1, 1995 may be approved only if the plans and specifications, at a minimum, comply with ADAAG standards (or more restrictive rules and regulations adopted by the Georgia Safety Fire Commissioner). The section further specifies standards and specifications for buildings permitted prior to July 1, 1995.

b. OCGA Section 30-3-5. Specific amenities required to be provided.  
This section identifies specific amenities required to be provided to make buildings and facilities accessible to and usable by individuals with disabilities, including requirements for accessible parking spaces; accessible entrances; accessible toilet rooms, bathrooms, bathing facilities and shower rooms; and accessible seating, tables, and work surfaces in a reasonable number.

## B. Safety Fire Commissioner Rules and Regulations

Copies of the Safety Fire Commissioner's Rules and Regulations, Chapter 120-3-20, may be obtained from the State Safety Fire Commissioner's Office. A copy is on file in the Community Development Agency Office, and in the County ADA Coordinator's Office. A table of contents of Chapter 120-3-20 is included below to demonstrate the scope of these rules and regulations:

120-3-20-.01	PURPOSE	120-3-20-.28	Toilet Rooms
120-3-20-.02	ADMINISTRATION	120-3-20-.29	Bathrooms, Bathing Facilities and Shower Rooms
120-3-20-.03	APPLICATION		
120-3-20-.04	GENERAL	120-3-20-.30	Sinks
	1 Provisions for Adults	120-3-20-.31	Storage
	2 Equivalent Facilitation	120-3-20-.32	Handrails, Grab Bars, and Tub and Shower Seats
	3 Designing for Children	120-3-20-.33	Controls and Operating Mechanisms
120-3-20-.05	MISCELLANEOUS INSTRUCTIONS	120-3-20-.34	Alarms
120-3-20-.06	DEFINITIONS	120-3-20-.35	Detectable Warnings
120-3-20-.07	Accessible Sites and Exterior Facilities: New Construction	120-3-20-.36	Signage
120-3-20-.08	Accessible Buildings: New Construction	120-3-20-.37	Telephones
120-3-20-.09	(Reserved)	120-3-20-.38	Fixed or Built-in Seating and Tables
120-3-20-.10	Protruding Objects	120-3-20-.39	Assembly Areas
120-3-20-.11	Ground and Floor Surfaces	120-3-20-.40	Automated Teller Machines
120-3-20-.12	Parking and Passenger Loading Zones	120-3-20-.41	Dressing and Fitting Rooms
120-3-20-.13	Curb Ramps	120-3-20-.42	Restaurants And Cafeterias
120-3-20-.14	Ramps	120-3-20-.43	Medical Care Facilities
120-3-20-.15	Stairs	120-3-20-.44	Business And Mercantile
120-3-20-.16	Elevators	120-3-20-.45	Libraries
120-3-20-.17	Platform Lifts (Wheelchair Lifts)	120-3-20-.46	Accessible Transient Lodging
120-3-20-.18	Windows	120-3-20-.47	Transportation Facilities
120-3-20-.19	Doors	120-3-20-.48	Designing For Children
120-3-20-.20	Entrances	120-3-20-.49	Covered Multi-Family Dwelling Uni
120-3-20-.21	Drinking Fountains and Water Coolers		
120-3-20-.22	Water Closets		
120-3-20-.23	Toilet Stalls		
120-3-20-.24	Urinals		
120-3-20-.25	Lavatories and Mirrors		
120-3-20-.26	Bathtubs		
120-3-20-.27	Shower Stalls		



## **406 BUS SHELTERS**

Cobb County has adopted Cobb Community Transit Accessibility Guidelines and Performance Specifications for Bus Pads and Shelters. This standard, and as may be amended from time to time, is adopted for purposes of privately and publicly constructed bus pads and shelters constructed within Cobb County. A copy may be obtained through the Department of Transportation.

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## **407 STANDARDS FOR LIGHTING**

Lighting plan drawn to scale showing location of all proposed lights and nearby County roads:

- arrangement of all poles (with dimensions);
- height of all poles;
- number of luminaries per pole;
- mounting heights of luminaries;
- wattage of proposed lights;
- mounting angle of fixtures; and
- lamp source to be used.
- Picture of the light to be utilized must be attached to the final plans. Care must be exercised to control any stray light that might trespass upon roadways.
- These are minimum requirements, based on the *Cobb County Street Lighting Ordinance* or as amended from time to time. The Cobb DOT may require additional information or conditions prior to final approval.
- Upon approval by the DOT Director, any exceptions to standard detail must be attached to final plan.

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## **408 EASEMENTS**

### **408.01 UTILITY EASEMENTS**

- See Standard Detail Nos. 80 and 81.
- In any utility location which otherwise affects the setbacks, the Zoning Division Manager may administratively vary the required setback in accordance with Section 103.01 herein.

### **408.02 WATER AND SANITARY SEWER EASEMENTS**

#### **408.02.01 Sanitary Sewer**

All easements shall allow adequate area to construct and maintain the sewer and appurtenances.

Permanent easements shall be:

- a minimum of 20 feet wide
- 10 feet on each side of the line

Construction easements shall be:

- minimum of 40 feet wide
- 20 feet on each side of the line

Easements shall be provided for any sewer line needed to serve adjacent property, even if the sewer pipe is not installed.

Cobb County Code prohibits any structure from being built within ten feet of a permanent sanitary sewer easement on front and rear setbacks or within two feet on side setbacks. A waiver of setback requirements can be obtained on a case by case basis from the Engineering Division of the Cobb County Water System.

Drawings must show:

- property lines;
- name of the property owners with the length of line encroaching on each property owner;
- size of line;
- line designation;
- manhole numbers and stations;
- width of permanent and construction easement;
- scale of drawing;
- north arrow;
- land lot and district numbers; and
- tie to the nearest land lot corner.

#### **408.02.02 Water Line**

All easements shall allow adequate area to construct and maintain the water line and appurtenances.

Permanent easements shall be:

- minimum of ten feet wide
- five feet on each side of the line

Construction easements shall be:

- minimum of 20 feet wide
- 10 feet on each side of the line

Easements shall be provided for any water line needed to serve adjacent property, even if the water line is not installed.

Cobb County Code prohibits any structure from being built within ten feet of a permanent water easement on front and rear setbacks or within two feet on side setbacks. A waiver of setback requirements can be obtained on a case-by-case basis from the Engineering Division of the Cobb County Water System.

Construction drawings must show:

- property lines;
- name of the property owners with the length of line encroaching on each property owner;
- size of line;
- line designation;
- width of permanent and construction easement;
- scale of drawing;
- north arrow;
- land lot and district numbers; and
- tie to the nearest land lot corner.

### **408.03 DRAINAGE EASEMENTS**

#### **408.03.01 Storm Drainage**

All permanent easements shall be:

- a minimum of ten feet for piped easements;
- a minimum of 20 feet wide for open channel;
- defined as ten feet on each side of the centerline of drainage course; and
- wide enough to allow for full depth excavation of pipe within the sideslope limitations of the Trench Ordinance. Nominally, this requires the drainage easement to be four times the depth of the pipe. As an alternative for consideration, engineers can submit concrete pipe designs.

**408.03.02 Combined Easement for Sanitary and Pipe Storm Drainage**

Combined easement for both sanitary sewer and piped storm drainage shall be:

- Minimum width of 30 feet
- If the storm drainage system consists of an open channel and a sanitary sewer easement:
- Minimum construction easement width shall be 40 feet
- Cobb County Code prohibits any structure being built within ten feet of a permanent sewer easement on front and rear setbacks or within two feet on side setbacks. A waiver of setback requirements can be obtained on a case-by-case basis from the Engineering Division of the Cobb County Water System.

**408.03.03**

- Actual easement shall provide for fully excavated trench with 2:1 side slopes to IE (Invert Elevation) of pipe. Engineers can submit concrete pipe and alternate designs.

A drainage swale shall provide for collection of stormwater to an easement.

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## **409 STORM DRAINAGE SYSTEMS**

### **409.01 GENERAL REQUIREMENTS**

#### **409.01.01 Applicability and Exemptions**

All development in unincorporated Cobb County, and in those other jurisdictions which by special agreement with Cobb County to apply Cobb County Standards, shall comply with these standards.

#### **409.01.02 Applications/Permit Process**

All drawings and calculations must be sealed/signed by the design professional registered to practice in the State of Georgia. Submittal shall be made to the Site Plan Review Division of the Community Development Department either independently or as a part of an overall project. Once demonstration has been made of a workable system, Site Plan Review shall not unreasonably withhold a Land Disturbance Permit for the work to be done.

#### **409.01.03 Inspection**

Cobb County may periodically inspect the work in progress and completed for compliance with Cobb County minimum standards and the approved drawings.

### **409.02 DESIGN CRITERIA**

#### **409.02.01 Storm Drainage System Design**

Standards to be used in designing system (For additional discussion about the requirements for Storm Drainage System Design, please refer to sections 107.03 and 107.04):

Sizing and location of all drainage structures shall be the responsibility of a registered design professional subject to approval by Stormwater Management Division.

Storm drainage pipes shall be sloped to maintain a minimum flow velocity of three fps so sediment will not collect. Exit velocities of eight fps or greater from outlet headwalls will require energy dissipation devices beyond the normal six times diameter length of rip-rap. Unimproved ditch velocities shall be maintained below five fps velocity.

Storm drainage pipes shall be sloped at a minimum of 1%. Maximum slopes for concrete storm drainage pipes are 10%. Storm drainage pipes on grades steeper than 10% shall outfall into a drop structure with a least one section of outlet pipe sloped on greater than 2% (drop structures must be properly anchored down). For CMP on slopes greater than 10% inverts must be paved.

Department of Transportation, State of Georgia Current Roadway and Bridge Standard Plan 1030D, shall be used in determining class (RCP) or gauge (CMP) of pipe under fill and method of back-filling, subject to the stipulations contained herein.

Inlet spacing shall be performed using FHWA's HEC-12 software or approved alternate.

Minimum design allowance for inlet clogage is 15%.

Use "L"-back curbing only. Roll-back curbing is not permitted.

Manning's roughness coefficient ("n"-value) for pavement inlet-design in 0.016.

Gutter spreads shall be limited to ½ the travel lane or 8 feet, whichever is less. Drainage formula used in determining size of drainage structure shall be determined by the design professional.

The Rational Method shall use the 25-year storm or rain event as the minimum design frequency. Stormwater handled in this manner shall be water internal to the specific subdivision only.

\*\*\*Note: The Flood Damage Prevention Ordinance designates each headwater pool created during a 100-year storm as a 100-year floodplain equal to the 100-year floodplain as established and designated by FEMA.

All subdivision drainage systems, both piped and channelized, receiving stormwater from off site (outside the bounds of the subdivision specific) shall be designed to handle and transport through the subdivision the 100-year storm. This design must address all necessary adjustments to channels, pipe sizes, lots, and any infrastructure of the subdivision specific.

### **DRAINAGE EASEMENTS**

See Section 408, Easements.

Catch basins and/or drop inlets shall be designed by the developer's engineer to the Department of Transportation, State of Georgia Current Roadway & Bridge Standard Plans 1033D, 1034D, 1019 and subject to final approval by the Cobb County Community Development Agency.

Grated inlets in unpaved areas are not recommended. Raised lid area drains are preferred in unpaved areas.

Catch basins handling street water shall be designed to handle a 25-year storm considering bypass, as prescribed by the Department of Transportation, State of Georgia design requirements.

Maximum inlet spacing shall not exceed the following:

- 500 feet on grades up to 7%.
- 400 feet on grades from 7% to 10%.
- 250 feet on grades over 10%.

...unless supported by design calculations approved by the Cobb County Stormwater Management Division.

Demonstration shall be made that the 100-year storm event runoff will track through the development along the drainage routes assigned by the site specific hydrology study.

A certification of the pipe specifications for each pipe shall be required before installation.

### **Stormdrain pipes:**

A minimum size of 18-inch diameter pipe is required under public streets and within County dedicated drainage easements.

Except in residential subdivision streets, no corrugated metal pipe (CMP) shall be permitted under the traveling surface of paved roads, as defined herein to mean from curb to curb.

Minimum BCCMP gauge of 12 gauge. Minimum gauge thickness for aluminum pipe is 12 gauge.  
Minimum gauge thickness for aluminum pipe is 12 gauge.

Minimum gauge thickness for Type 2 aluminized corrugated metal pipe is 14 gauge.

No CMP is permitted on a live stream unless invert is paved. Live streams are defined as any continuously flowing stream, which intercepts more than a ¼ square mile (160 acres) drainage area.

High-density polyethylene pipe (HDPE) pipe will be permitted under the following conditions:

- 1) Must have granular backfill to the top of the pipe.
- 2) Depths no greater than ten (10') feet as measured to the invert of the pipe.
- 3) Installation must be outside of roadway right-of-way.
- 4) Watertight bell and spigot gasketed joints must be provided.
- 5) 36" inch diameter or greater must be inspected and certified by a geotechnical engineer or a manufacturers representative.
- 6) Smoothbore pipe only.

Concrete or masonry headwalls of an approved type are required on inlet and outlet ends of the pipe. Steel flared end sections are not approved. Only concrete flared end sections will be accepted. Standard step bevel and treatment may be approved on large diameter (60-inch or larger) storm drains where the perimeter is secured with grouted rip-rap or poured in place concrete.

No CMP will be permitted if depth as measured to the invert of the pipe is greater than 15 feet and diameter of pipe exceeds 36 inches in the absence of an inspection and certification of the bedding, joints, and pipe backfill envelope by a registered and insured Geotechnical Engineer stating that these items were inspected and were properly installed in accordance with the manufacturers recommendations.

Extend 50' beyond the front building setback line if 30" or smaller.

Maximum continuous length of pipe without a point of access (i.e., manhole or junction box) shall be 300' for pipes 48" and smaller.

Junction boxes having a manhole-type frame and cover access at grade to the pipe shall be constructed at all changes in horizontal or vertical alignment to meet the requirement of Department of Transportation, State of Georgia Standard 1030D (or most current).

The 100-year headwater pool shall be determined at each proposed and/or modified cross-drainage structure.

In accordance with Cobb County's Flood Damage Prevention Ordinance, finished floor level (including basement floor level) shall be set no lower than the 100-year frequency headwater pool elevation plus three vertical feet.

Emergency flow-bypass or emergency overflow relief shall be provided at the elevation of the 100-year headwater pool to convey flow through (or over) the impoundment structure in instances where the cross drainage structure intercepts a live stream, as defined above.

#### **409.02.02 Record Drawing**

**RECORD DRAWINGS OF STORM DRAIN SYSTEMS INSTALLED IN NEW DEVELOPMENTS MUST BE SUBMITTED PRIOR TO APPROVAL OF THE FINAL PLAT. THESE RECORD DRAWINGS MUST COMPLY WITH SECTION 206.01.02.**

#### **STORM WATER MANAGEMENT (DETENTION)**

Each project shall provide stormwater controls such that predevelopment peak flow rates are maintained, unless otherwise approved by Division Manager of Stormwater Management or his/her designee

Storms with a statistical rate of return of 2, 5, 10, 25, 50, and 100 years shall be evaluated and controls created to attenuate peak flows.

Responsibility for calibration and application of the empirical equations rests with the design engineer.

Times of concentrations of less than ten minutes for existing/undeveloped conditions are not acceptable for design nor are runoff percentages of greater than 30% when using the Rational Method, without supporting documentation acceptable to the Cobb County Stormwater Management Division.

Hydrologic calculations must employ an engineering methodology currently recognized and accepted within the industry. This methodology must include a hydrograph routing analysis, which generates an inflow hydrograph to the detention pond to create an outflow hydrograph. Multiple inflow hydrographs shall be combined on a real time basis. Multiple outflow hydrographs shall be combined on a real time basis. Multiple detention ponds in series must be routed from one to the next and so on throughout.

A hydrograph routing analysis shall be submitted for all proposed areas drainage structures, which intercept more than 320 acres ( $\frac{1}{2}$  square mile).

Where existing developed sites are changed, only those portions of the site, which are unchanged, are "grandfathered" as existing conditions for allowable runoff calculations. That is, impervious areas will be grandfathered as "existing conditions" in only those areas that are not changed, modified, or improved. The calculated allowable flow from all areas razed and reformed must be considered in the undeveloped condition.

#### **409.03.01 Stormwater Hydrologic Methodology**

The design professional engineer may utilize any industry-accepted methodology for creating hydrologic design which routes a hydrographic model of the storm through the detention pond and outlet control structure and generates a related hydrographic model for output. All storms from 2-year to the 100-year event shall be analyzed and controlled such that corresponding peak flows leaving the site are not increased.

Where determined by Cobb County, the Cobb County HYDROS Computer Model will be utilized to review the work presented in any hydrology study. Where significant (in excess of 25%) differences occur between the submitted study and the Cobb County HYDROS evaluation standard, Cobb County may require the original design professional engineer to review the results and submit a written justification of the original study. Modifications to the system must be pursued upon direction of Cobb County.

In order to expedite Cobb County's review, the hydrology study for the project must include the listing of HYDROS input parameters:

Drainage areas in acres;

Total flow length of the drainage area via the longest route;

The ground elevation along the flow route at the point located at 85% of the route measured from the downstream point of interest;

The ground elevation along the flow route at the point located at 10% of the route measured from the downstream point of interest;

Amount or percentage of impervious area within the drainage area both before and after the project;

Length in feet of all drainage system improvements along the route; and

Soil Conservation Services (SCS) curve numbers estimates for before and after project conditions.

Analysis of stream flow and backwater elevations shall be consistent with FEMA's accepted methodologies whether or not the project is within a Federal Emergency Management Agency (FEMA) Flood Zone. The U.S. Army Corps of Engineers' standard step HEC II analysis, HEC RAS or approved equal shall be utilized. Routing of flood waters through an impoundment using a hydrographic model (to justify attenuated peak flows, for example) may be allowed, subject to Cobb County Stormwater Division's concurrence.

#### **409.03.02 Stormwater Quality/Quantity Control Facilities**

Cobb County requires each new project to create adequate stormwater controls using Best Management Practices (BMP's). Use of BMP's to enhance water quality and to comply with the Clean Water Act (CWA) is federally mandated. Cobb County will utilize the Atlanta Regional Commission's Georgia Stormwater Management Manual, Volumes I and II, as standards for compliance with the required BMP's. For any project that requires a land disturbance permit the project shall conform to the following standards:

- The total impervious surface area within its development, including all public and private structures, roadways, utilities, and other facilities shall not exceed 25% of the total area within the development. The total amount of impervious surface within a development may exceed 25% of this area if the following conditions as required and approved by the Stormwater Management Division Manager shall be met:
- The total directly connected impervious surface area within the development shall not exceed 15% of the total area within the development. Impervious surfaces can be considered disconnected from the drainage system if the runoff from the impervious surface flows over a minimum of 25 feet of pervious surfaces (non-concentrated flow) or if the runoff from 1.2" of rainfall is treated by one of the following water quality best management practices as approved by the Stormwater Management Division Manager:
  - Wet Ponds (extended detention for less than 20 acres) — ED-micro pool.
  - Wetland—constructed
  - Infiltration Trenches
  - Dry swales
  - Sand Filter
  - Bio-retention
  - Vegetated Filtration Systems
  - Any other best management practice approved by the Stormwater Management Division Manager.

- Residential detention facility and/or dam and outlet control structure shall be located outside the boundaries of a permitted building lot. Setbacks and density calculations for permitted building lots, which abut a residential detention facility, shall not be affected by the boundaries of the residential detention facility. A detention pond shall be defined as any dam or roadway embankment with a control structure on the upstream side (Does not apply to roadway detention areas). Headwater pools created by restrictive culverts are not considered as detention facilities for the purposes of this section.
- Access shall be provided via a graded and grassed roadway not less than 12 feet wide and minimum grade practical within a 20-foot wide dedicated easement under exclusive control of Cobb County. Said easement must be accessible via a public right of way. In the event that said easement is not accessible via public right of way, Cobb County will not accept for maintenance; the pond/facility will be privately owned and maintained. Privately maintained ponds within residential projects must be so noted on final plats, including deed covenants.
- Access to the facility and/or dam and outlet energy dissipater shall not occur on any permitted building lot. Access easement must be used exclusively for access to detention facility even though other utility easements may cross it.
- Permanent drainage easements of 12 feet in width shall be recorded around all detention ponds at or above the 100-year pool elevation.
- Detention facilities will not be allowed within any FEMA "A"-numbered or "AE" designated flood zone or Cobb County Flood Damage Prevention Ordinance flood hazard area without obtaining prior written permit approval from the Cobb County Water System Stormwater Management Division.
- Roadway Detention will be allowed on the upstream side of a subdivision street or public road, provided the outlet control structure is located outside of the right-of-way and the roadway shoulder is not impacted. Area must be undisturbed, no grading will be allowed, and must be accessible from the public r.o.w. and identified on the final plat with a permanent access and maintenance easement surrounding the headwater pool.
- Publicly owned and maintained roadways are not permitted across permanent impoundment structures which have a permanent pool (water) level.
- Dams may be created across streams provided all properties affected, including backwaters inundation by a flood pool, are under the control or joint control of the developer of said dam. Backwater elevations upstream and off-site cannot be increased without obtaining flood easements from the affected property owners. In addition, FEMA permitting is required for any dam crossing a regulated floodplain.
- Existing lakes and ponds provide a mitigating influence on stormwater flow by attenuating flood peaks. For this reason, Cobb County may require that each property owner maintain the lake or pond now existing on his/her property. Prior written permission from the Cobb County Stormwater Division is required to remove said lake or pond and the flood attenuating benefits that they provide. Cobb County will require a pre and post development sediment range survey for any existing lake or pond within the drainage basin that is downstream of a proposed project.
- Each residential detention facility, which is normally dry, and is in excess of six vertical feet as measured from the crest of the dam to the invert of the lowest outflow control structure, shall be fenced using chain link fencing (or approved alternate) complying in material and installation with

- Section 643 of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Georgia, current edition, except as follows:
  - Height shall be 6 feet.
  - Access gate shall have clear opening width of 12 feet, made of two panels, which shall be centered upon the access road.
  - Any chain link fencing around detention facilities required by these standards which is located within 300 feet of any public roadway classified other than a local residential street within the proposed project, must be vinyl coated.
  - Fencing shall be mounted to provide a minimum 12-foot wide access surrounding the detention pond at top of the bank and shall be located at the crest of the dam. Fencing shall not extend across any spillway opening or downstream channel.
  - Fencing of commercial and industrial detention facilities is also required to conform to the above requirements.
  - Any detention facility proposed for the exterior boundary of a project which will abut an existing, residential structure, shall provide a 10-foot landscape buffer.
  - As a minimum, developments shall provide facility systems established to provide water quality improvements. This may be accomplished through the appropriate use of BMPs and natural wetland filtration buffers.

Detention can be waived in certain instances, i.e. - fee in lieu of detention, large lot sizes with small house, enhanced canopy/green space, as evaluated on a case-by-case basis.

The Division Manager of the Stormwater Management Division of the Cobb County Water System may grant variances to these standards on a case-by-case basis.

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## **410 WATER AND SEWER**

### **410.01 APPLICABILITY**

This section shall apply to all current and potential users of the Cobb County Water System including users outside the County who, by contract or agreement with the County, utilize the services of the Cobb County Water System. Except as otherwise provided herein, the Director or his designated representative shall administer, implement and enforce the provisions of the section. Cobb County Water System Sewer and Water Specifications, Appendix B, provide additional details for designing, constructing, and inspecting sewer and water systems.

### **410.02 OBJECTIVES**

Provide a clear and concise description of the Cobb County Water System standards for water and sanitary sewer system design and construction.

Provide guidance to developers and their engineers to facilitate compliance with said standards.

Furnish standards, which will create development of a quality water and sanitary sewer infrastructure.

### **410.03 SERVICE REQUIREMENTS**

At the conceptual stage of a project, the owner/developer will submit a request to the Water System Engineering Division of the availability of water and sewer capacity for the project. The request should include, but not be limited to, the location of the project, the size of the development, and the type of service.

The owner/developer shall identify the immediate needs for services as well as ultimate needs based on information made available from the Water System and other County agencies/departments/divisions.

Water System personnel shall evaluate the impact of the requested service upon the water distribution system and the sewer system and shall make a determination regarding the availability of services.

For all new developments, Fire Flow tests are required. The developer should have the results of the test prior to starting the construction plans.

### **410.04 GENERAL DESIGN CRITERIA**

#### **410.04.01 Water Service Above 1,150 Ft. MSL**

All commercial, institutional, multi-family or residential subdivisions proposed above sea level elevation of 1,150 feet will require a special design study to be accomplished and submitted to the Cobb County Water System for approval. This study must be completed and approved by the Water System prior to any development plans being submitted for the plan review process.

#### **410.04.02 Line Extension Requirements**

If it is required to extend a water main for a development, the developer must extend it the full length of the property's improved frontage. The size of the extension will be at least the size of the existing main and may be larger as directed by the Cobb County's Water Distribution Master Plan or fire protection requirements.

Developers are required to extend sanitary sewer service to their proposed development if the development can be connected to existing sewer by gravity flow and no further construction of planned sewers by Cobb County downstream of the proposed development is anticipated. The diameter of the extension will be at least eight inches or larger as directed by the Cobb County Water System. In the latter case, the Cobb County Water System will pay for upsizing.

Sanitary sewer must be extended through a proposed development for a distance of up to 100 feet past the front building line and easements granted to the property line for future extensions necessary to serve future development beyond the development boundary.

If an existing water main or sanitary sewer line must be extended to serve his particular development, the developer would be required to pay all initial costs for the extension. Under some circumstances, the developer may be eligible to recover portions of his costs from future developers in the area in accordance with the adopted Sewer Extension Policy in effect at the time.

Construction of dry sewer and septic tanks may be required under some circumstances if construction of planned sewers by Cobb County downstream of the proposed development is anticipated.

#### **410.04.03 Street Cuts**

All major street crossings should be bored and cased per Cobb County DOT and Georgia DOT.

If a bore cannot be made, the Cobb County DOT or Georgia DOT must permit the street cut.

#### **410.04.04 Standard Drawings**

Installation of water mains and related water appurtenances, sanitary sewer lines, and related sewer appurtenances shall be in accordance with applicable Water System standard design drawings.

#### **410.04.05 Creek Crossing**

All creek crossings will be constructed in "DRY" conditions created by the contractor to prevent down stream silting. The contractor will submit a written proposal or schematic to the Engineering Division as to the construction method proposed for the creek crossing. Proposals may include temporarily rerouting the creek with approved piping or temporarily damming the creek while pumping around the construction area.

#### **410.04.06 Cased Bores**

For water line installations in casing, blocking or skids will be placed under the carrier pipe prior to inserting pipe into the casing. Skids will be formed with pressure treated lumber and attached to the pipe with metal bands. Skid spacing will not exceed ten (10) feet on center.

For installations involving gravity sewer lines, manufactured casing spacers will be used to maintain proper line and grade of the carrier pipe. Spacer spacing will not exceed ten (10) feet on center. Spacers will be equal to Model 4810 stainless steel Casing Chocks as manufactured by Power Seal.

### **410.05 WATER**

#### **410.05.01 Applicability**

To provide adequate water flow and pressure to the citizens of Cobb County for domestic usage and fire protection as outlined in the Water System Master Plan.

#### **410.05.02 Design Criteria and Standards**

##### **Fire Flow Test**

A Fire Flow Test must be conducted on the existing water line, for any new development, prior to submitting design drawings for approvals, to determine the adequacy of water supply for the project. Utilization of a Fire Flow Test by more than one project is prohibited. In general, a fire flow test may not be required in areas known to have sufficient flow and pressure as determined by a prior test conducted by Cobb County Water System personnel.

The test shall consist of a fire hydrant flow test and a 24-hour flow and pressure test.

Test information furnished by the Water System or developers engineers shall consist of:

- Static Pressure and GPM Flow
- Residual Pressure and GPM flow
- Projected flow in GPMs @ 20 p.s.i.
- Actual Pressure flow in GPM

### **SITE MAP INCLUDING FIRE HYDRANT LOCATIONS**

Fire flow test results must be included in the water plans prior to approval of the plan by the Water System. The Cobb County Water System may require a 24-hour pressure chart recording. Fire flow test must not be more than (6) months old at the time of first submittal to the Plan Review process.

Water supply must meet fire flow and domestic requirements for service area. If adequate supplies are not available, construction will be contingent upon approval of a design study and plan submitted by the owner.

The County will run the Fire Flow Test at the developer's cost. A registered engineer may perform this test for the developer, however, the test information outlined in the third bullet above must be furnished and certified.

### **Fire Flow Requirements**

Minimum flow in gallons per minute at 20 psi by the duration in minutes by type of development is required to be as follows:

- Multi-family, commercial and institutional  
1,500 GPM for 30 minutes
- Residential  
1,000 GPM for 30 minutes

### **Spacing of Fire Hydrants**

#### Multi-Family, Commercial, and Institutional:

Fire hydrants shall be spaced not more than 500 feet apart.

#### Single Family:

Single-family residential developments shall have a maximum fire hydrant distance of 500 feet from the hydrant to the most distant building served by that hydrant.

### **Location of Fire Hydrants**

#### Fire Hydrants on County Roads:

Fire hydrants on existing County roads shall be located between the edge of the right-of-way and the water lines.

#### Fire Hydrants on New Streets:

Fire hydrants on new streets shall be located between the curbing and the water line.

### **Fire Main Size**

#### Multi-family, Commercial and Institutional:

Water mains shall be a minimum of eight inches.

#### Single Family:

Water mains shall be a minimum of six inches.

## **Location of Water Mains and Appurtenances**

### Existing County Roads:

On existing County roads, water lines shall be located two feet from the edge of pavement with a minimum cover of 42 inches.

### Water Lines on New Streets:

Water lines in new streets shall be located five feet from the back of the curb with a minimum depth of 42 inches.

### Service for all new developments:

There will be a dual feed from two separate mains for all new subdivisions in Cobb County where practical and deemed necessary.

### Service Laterals:

Service laterals shall be located as per Cobb County Standard Details with a minimum depth of 42 inches within the right-of-way and shallowing to a depth of 18 inches at the water meter location.

### Water Meters:

Water meters shall be located at the edge of the street right-of-way or utility easement per Cobb County Standards and permanently marked in the curb with a "W".

### Water Valves:

Water valves at intersections shall be located as per Cobb County Standards. Valve location will be permanently marked in the curb.

### Dead End Lines:

A gate valve and a minimum of two joints of pipe, mechanical joint cap or plug rodded to a concrete thrust collar shall be provided at the end of all lines where extension is proposed or anticipated for phased developments.

### Connections to Existing Water Mains:

Isolation of the existing water main (with 48-hour minimum notice to CCWS and affected customers) for "cut-in" of appropriately sized mechanical joint tee/gate valve configuration is required for all size-on-size connections and all connections to existing asbestos-cement, PVC and cast-iron water mains. Wet-tap assembly connections shall only be allowed for size on larger size connections to existing ductile iron water mains.

## **410.05.03 Water Inspection**

Hydrostatic pressure and leakage tests shall conform with Appendix B of this document, the exception that the contractor shall furnish all gauges, meters, pressure pumps, and other equipment needed to test the line. The pressure gauge used for testing shall be laboratory calibrated suitable for the test pressure required.

The pressure required for the field hydrostatic pressure test shall be 150% of the maximum operating pressure of the section, or the pressure class of the pipe, whichever is greater. The contractor shall provide temporary plugs and blocking necessary to maintain the required test pressure. Corporation cocks at least  $\frac{3}{4}$  inches in diameter, pipe riser, and angle globe valves may be required at each pipe dead-end and high point in order to bleed air from the line. Duration of the pressure test shall be at least 2 hours. The cost of these items shall be included as a part of the testing.

A record of successful pressure testing results will be provided by the contractor to the Cobb County Water System inspector at the time of observing the leakage testing.

The leakage test shall be a separate test at the maximum operating pressure as determined by the owner following the pressure test and shall be of not less than 2 hours duration. All exposed pipes, fittings, valves, and joints will be carefully examined during the tests and all leaks evident at the surface shall be repaired and retest as necessary until test requirements are complied with. Defective materials, pipes, valves, and accessories shall be removed and replaced.

## **410.06 SEWER**

### **410.06.01 Applicability**

To furnish sanitary sewer service to all new developments within Cobb County in accordance with the Water System Master Plan.

### **410.06.02 Design Criteria and Standards**

#### **System Design**

Sewer system should be designed for the estimated tributary population. Tributary population is considered to be all areas upstream of the discharge point of the system being designed. Sewers will be designed to the uppermost property line of the development being served and extended up to 100' from the front property line.

New sewer systems shall be designed to accommodate peaked sewage flow plus anticipated maximum infiltration/inflow levels under open channel flow conditions. The pipe diameter and slope shall be selected to obtain the greatest practical velocities to minimize settling problems.

#### **Design Standards**

No sanitary sewer collector less than eight (8") inches in diameter may be installed. Service laterals in the public right-of-way or sewer easement shall be at least six (6") inches in diameter and shall terminate with a cleanout assembly. Service lateral locations shall be permanently marked in the curb and installed by the developer according to the approved Detail entitled "Sewer Service Lateral" in Volume 2, Cobb County Development Standards and Specifications. Manhole spacing should not exceed 350 LF. Variance to exceed these lengths shall be documented and submitted for review by the Manager of the Engineering Division.

Sanitary sewer easements shall be a minimum of 20 feet wide.

No permanent structures shall be constructed within ten feet of the edge of a permanent easement on front and rear setbacks or within two feet on side setbacks.

Depth of sanitary sewer lines should not exceed 18 feet within a street and a maximum of 25 feet off-street. Variance to exceed these "depths" shall be documented and submitted for review by the Manager of the Engineering Division.

Manholes below the 100 year flood elevations will have bolt-down, water-tight rings and covers pre-cast into the manhole cone.

All man-hole adjusting rings used on manholes in the streets will be metal.  
All utility manholes on right-of-way will be flush with the ground elevation.

Manhole joints shall be sealed with an approved sealant to prevent infiltration and inflow.

Drop connections of proper design are required at all manholes where the drop is greater than three feet.

All manholes shall be stabilized with a minimum of 6 inches of crushed stone under the base.

Minimum angle between influent and effluent sanitary sewer lines at a manhole shall be 90°.

The maximum slope for a sanitary sewer line shall be 20%. All 20% sewers shall be DIP with concrete collar walls at every joint or alternate restraining system provided by the design engineer. Slopes less than 20% are preferred and drop connections for 20% slopes are prohibited unless designed by a registered Professional Engineer and approved by the Engineering Division Manager.

The minimum slope for a sanitary sewer line will be selected to maintain a minimum velocity in the pipe, when flowing full, of 2.5 feet per second. The velocity shall be calculated using the Manning formula with an "n" factor of 0.013. Slopes greater than the minimum are desirable and will be required if site-specific conditions permit. Slopes less than minimum will be considered on a case-by-case basis and will be approved by the Engineering Division Manager.

Ductile iron pipe shall be required under the following circumstances:

- When a sanitary sewer line has a cover of less than three feet.
- When a sanitary sewer line crosses a storm sewer line with less than two feet of clearance.
- When a sanitary sewer line passes laterally within one foot of a storm sewer line.
- When a sanitary line is to have in excess of 18 feet of fill.
- When a sanitary sewer line is at the maximum slope of 20%.
- When a sanitary sewer is less than six feet under a street.
- When a sanitary sewer line crosses a creek.
- All drop connections in manholes unless otherwise approved by the Engineering Division Manager.
- When a sanitary sewer line is in a "side setback" location (i.e. where a structure could be built as close as two (2') feet from the easement).

When practical, when DIP is required it should be used the entire length between manholes to avoid transition couplings. However, rigid PVC transition couplings, may be used using HARCO, Specified Fittings, Inc., or equal adapters.

Both vertical and horizontal alignments shall be reviewed with the Cobb County Water System prior to finalization.

All oil and grease, water, and solids separators (grease traps) required in this provision shall have a capacity and design in compliance with the following equations:

Restaurants

$$(S) \times (20) \times HR / (12) \times (LF) = \text{Capacity in Gallons}$$

S = Number of seats in dining area

HR = Number of Hours open

LF = Loading Factor -   1.25 Interstate Highways  
                                  1.00 Other Freeways  
                                  1.00 Recreational Areas, Shopping Centers  
                                  0.80 Main Highways  
                                  0.5 Other Highways

Hospitals, nursing homes, other type commercial kitchens with varied seating capacity

$$(M) \times (5) \times (LF) = \text{Capacity in Gallons}$$

M = Meals per day

LF = Loading Factor -   1.0 with dishwasher / .05 without dishwasher

Except that no grease trap shall be smaller than 750 gallons, no single separator shall be larger than 3,000 gallons. Where requirements exceed 3,000 gallons, multiple units shall be used. In cases of certain fast food restaurants or establishments with a potential to discharge large quantities of grease and oil, capacity requirements greater than 20 gallons per seat may be required. Pre-packaged or manufactured grease traps may be approved by the control authority with proper engineering and application review.

For restaurants, other eating establishments, or commercial food preparation establishments: All exterior grease interceptors used in conjunction with restaurants, other eating establishments, or commercial food preparation establishments shall be sized in accordance with Cobb County Water System Specifications approved by the Cobb County Board of Commissioners. Interior automatic grease traps may be used for existing buildings or in conjunction with "tenant finish" permits when sizing requirements are established and certified by a plumbing engineer and with the owner's acknowledgement that an upgrade to an exterior trap may be required if the unit fails to comply with the maximum grease discharge limit of 150 milligrams per liter under Section 3-26-91.

All exterior grease traps will comply with the standard detail in Section 600.

Thoroughly tamped, compacted, granular bedding material is required for all gravity sanitary sewer pipe installations. This bedding shall be a minimum of 6 inches below the pipe and extend up to the mid-point (springline) of the pipe for the full trench width. The remainder of the pipe shall be covered with compacted select material to at least one foot above the pipe.

#### **410.06.03     Sewer Inspection**

The contractor shall air test all gravity sewer lines following completion of construction and pipe cleaning. PVC pipe must also pass a 7.5% deflection test. Contractor shall furnish all necessary equipment and materials for testing and shall be performed consistent with the requirements in Appendix B to this document.

If the test section fails to meet the infiltration, air or deflection test requirements, the contractor shall determine the source(s) of leakage or deflection, make necessary repairs, and retest the test section, all at no additional cost to owner.

A record of the low-pressure air and deflection testing will be provided to the Cobb County Water System inspector at the final sewer construction inspection. The record should include the line segment identification, initial air pressure, time interval allowed, the final air pressure, deflection test log, date of tests, and name of the person in charge of testing.

At the time of the final sewer construction inspection, the newly installed sewer system will be separated from the existing system by installing plugs in accordance with Cobb County Water System Standard Operating Procedures. These plugs will remain in place until the successful completion of the Post Paving Inspection and will only be removed under authorization of the CCWS Inspector.

For all sewer segments with slopes less than 1% the contractor shall be required to verify the actual grades in the presence of a CCWS Inspector either prior to or during the construction final inspection, or prior to the placement of stone base in streets/paved area.



## **411 EROSION CONTROL**

### **411.01 SOIL EROSION AND SEDIMENTATION CONTROL**

Cobb County has adopted the best management practices as prescribed in the Soil Conservation Service's Manual for Erosion and Sediment Control in Georgia in the design of soil erosion and sedimentation control measures.

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## **412 FENCES, BUFFERS AND BERMS, MAILBOXES, AND IRRIGATION SYSTEMS**

### **412.01 FENCES**

No fence or wall (other than subdivision entrance walls, noise abatement walls, or tennis court fences) shall be more than eight feet in height or be constructed on public right-of-way or future street right-of-way. If a fence is to be located adjacent to a public road and within the required setback within a residential zoning district, such fence shall not exceed six feet in height. Should a fence be erected in error within the right-of-way, Cobb County shall not be responsible for replacing or repairing the illegal structure.

### **412.02 BUFFERS AND BERMS**

Landscape buffers and screening requirements are not applicable to residential zoning classifications of R-80, RR, R-40, R-30, R-20, R-15 and R-12. Landscape buffers and screening requirements are required for all other residential zoning classifications. Landscape buffers and screening requirements are required for all non-residential zoning classifications. The buffering and screening requirements for applicable zoning classifications are listed within the individual zoning classification regulations of the Cobb County Zoning Ordinance, Chapter 134 of the Cobb County Code.

Parcels of land being developed may have zoning stipulation(s) that require buffering or screening. The official records in the Zoning Division Office should be checked prior to purchasing or developing land.

### **412.03 MAILBOXES**

Mailboxes shall be constructed in accordance with approved materials and standards as required by the Postmaster General and the U.S. Postal Service and the Georgia Department of Transportation. Installation location shall be compatible with Standard Design Detail No. 80. Intersection sight distance and sidewalks shall not be obstructed by mailbox installation.

### **412.04 IRRIGATION SYSTEMS**

Irrigation systems shall be constructed outside the right-of-way. Any damage by Cobb County to improperly located systems shall be the sole responsibility of the owner.

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## **413 STRUCTURAL RETAINING WALLS**

When permanent grades are proposed with a resulting slope steeper than one foot vertical for every two feet of horizontal displacement (2:1), an appropriate retaining structure shall be designed to reinforce or retain the resulting embankment. The structure shall be designed by a registered professional engineer to be constructed of reinforced concrete or other masonry materials designed by a registered professional engineer. Initiate latest revision O.S.H.A., or as may be amended from time to time. An engineered design may be substituted for the reinforced concrete design if the specific vendor has a pre-qualified acceptance from the Development and Inspections Division Manager. All structural components of the wall shall meet the minimum building codes for the proposed use.

When the necessity for an earth retaining structure is required for a vertical displacement of 30 inches or less, appropriate landscaping timbers, or approved equal, may be employed if no permanent structure is supported by the soil retained by the retaining wall. The use of railroad cross ties or other timber products will only be allowed in these instances as per detail.

All wall designs must demonstrate complete dimensions for line and grade. Wall design will consider foundation drainage and select backfill material for the proposed conditions.

Walls shall be located in such a fashion to not encroach upon existing or proposed drainage easements, drainage courses or floodplains to encumber the natural flow of surface runoff of stormwater. Walls shall be located at a distance from such watercourses to allow for anticipated future maintenance of the easement to prevent a safety hazard to the maintenance workers or to jeopardize the structural integrity of the wall.

Walls that are not attached to the permitted structure and require a foundation shall be permitted as a freestanding structure and shall be inspected as prescribed by the permitting procedure. Walls will be inspected for conformance with the approved design. Any deviation from the approved design will require the engineer of record to submit a certification of the non-conforming structure along with supporting calculations to indicate that the construction is consistent with the initial design parameters. In the event the inspector has not been provided ample opportunity to inspect the structure, the contractor must provide a certification of the construction by the engineer of record and geotechnical reports for concrete testing for strength, reinforcing steel specifications. Failure to comply with the requirements of this section will require that the remaining work cease and/or removal of nonconformance until the adequacy of structural integrity is demonstrated to the satisfaction of the Development and Inspections Division Manager.

Retaining walls that are proposed for the purpose of stormwater detention must be designed to demonstrate that the walls are capable of a hydrostatic load as measured from the top of the foundation footing to the highest elevation along the top of the wall. The hydrological design must allow for a free board dimension of one foot and an emergency overflow capacity equal to the allowable peak discharge for the 100-year storm event. The routing calculations should not take into account the existence of the emergency overflow. Place the overflow device above the projected 100-year flood elevation within the detention area.

Any construction that may impact or be within the right-of-way of an existing or proposed water or sanitary sewer easement must be approved by the Water System.

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## **414 FLOOD DAMAGE PREVENTION**

Article II of the Flood Damage Prevention Ordinance specifies the limitations to development within a region identified as a flood hazard area. In order to determine that the proposed use conforms to the requirements of this ordinance, the permit for such development will be issued subject to a plan prepared by a registered professional engineer as required by that ordinance. The applicant must furnish complete and sufficient plans, specifications, hydrological and engineering studies, or data necessary to support the following required documents or drawings: Grading, replanting, and drainage plans; proposed temporary and permanent drainage and sedimentation control structures and facilities; complete hydrologic studies based upon the level of the regulatory flood; a determination of the channel cross-section area required to carry the affected stream at the 100-year flood stage level; complete hydrologic studies to evaluate the total effects a development under review may have upon drainage facilities and systems. A written agreement to limit use and development in accordance with the approved plans and specifications may be required by the Community Development Director or his/her designee.

For a permit to be issued, hydrologic studies must demonstrate that the proposed filling or grading within a flood hazard area would not overload the capacity of the channel downstream or increase flood stages upstream. Equivalent flow and storage capacity are provided for and maintained by suitable improvements. In addition, if the studies and examination show that the proposed development or building would increase runoff to create a flood hazard, the permit shall be conditioned to require storage and release mechanisms that rainwater from impervious areas will enter the stream at the same rate as was characteristic of the unmodified site. No building permit shall be granted until all permitting conditions have been met.

All buildings located within or contiguous to a flood hazard area shall:

- Be constructed so that the lowest floor, including basements, is located a minimum of three feet above the base flood elevation, as prescribed by the Flood Damage Prevention Ordinance, which may be amended from time to time;
- Finished lowest floor elevations shall be shown, referenced to NGVD, on all plans for structures located within or adjacent to a flood hazard area;
- Floodproofing levels will be shown on all plans for new or renovated structures located within a flood hazard area. Floodproofing plans must be certified by a registered professional engineer;
- Construction in or adjacent to a Special Flood Hazard Zone A will require establishment of base flood elevation by registered professional engineer in addition to the above conditions; and
- On structures elevated above the base flood, the lowest horizontal structural member, or part thereof, shall be positioned not less than one foot above the base flood elevation. (Supported columns without cross bracing are excluded.)

No relocations or realignments of river and stream channels shall be allowed which result in an increase of flood elevation either upstream or downstream of the relocation or realignment on any property under different ownership, which is adjacent to the relocation or realignment. Provisions must be incorporated in the proposal to ensure that adequate stabilization will be provided for the altered watercourse. Adjacent governmental entities and the Georgia Department of Natural Resources must be notified prior to any alteration or relocation of a watercourse, and evidence of such notification submitted to FEMA. Documents in the form of backwater analysis using methods approved by FEMA must be submitted to Cobb County.

Structures shall be designed to prevent flotation and collapse, and to prevent damage to nonstructural elements.

The location, design, elevation, and construction of all public utilities and facilities, such as sewer, gas, electrical, water systems, and streets, shall be in such a manner to minimize or eliminate damage by flooding. Construction of these facilities on piers shall be permitted. Accesses to utilities shall be above the base flood elevation. Unless a variance is granted, both public and private roadways shall be constructed not less than three feet above the base flood elevation measured at the centerline of the road. Roadways shall not be deemed to include a driveway, which services only one residence, structure, or property. Bridges shall be constructed that the bottom cord of the lowest horizontal structural member is not less than one foot above base flood.

All new developments for manufactured homes must meet the specific requirements of the Flood Damage Prevention Ordinance.

Any replacement or substantial improvement to any structure located and grandfathered within a flood hazard area, which would elevate the value of the structure to or above 150% of the value at time of beginning of such replacement or substantial improvement, will require modifications to the total structure to bring the total structure into compliance with the requirements of the Flood Damage Prevention Ordinance.

Any development activities within the FEMA designated floodway must be approved by Cobb County with overview by FEMA. Development activities within the flood fringe may be permitable through Cobb County only.



## **415 TIMBER HARVESTING/CLEARING**

### **415.01 APPLICABILITY**

These standards apply to any tree cutting, clearing, or clearing and grubbing projects for which no full site plan is being reviewed by Cobb County staff or for which no conceptual site plan has been approved by the Cobb County Board of Commissioners.

Exemptions described in the Cobb County Soil Erosion and Sedimentation Control Ordinance Chapter 50 shall also apply to these standards subject to the following criteria:

- Agricultural practice shall be verified as on-going through documentation such as historical records of timber sales, a forest management plan on file with the Georgia Forestry Commission (GFC), livestock ownership, or boarding records and the like; and,
- The owner or owner's representative involved in any exempted timber harvesting, clearing, or clearing and grubbing shall conform to all applicable general design principles of the E & S Ordinance set forth in Chapter 50 and, when applicable with all Best Management Practices for timber harvesting as described in the GFC document "Recommended Best Management Practices for Forestry in Georgia", and the U.S. Clean Water Act Section 404, EPA, 40 CFR, Part 232.3 (c)(6); and,
- Prior to any exempted timber harvesting, clearing, or clearing and grubbing activity the land owner and/or owner's representative shall meet on-site with the Cobb County Arborist to determine the limits of land disturbing activities, review agricultural documentation and discuss any applicable zoning requirements, BMPs, and the like.

### **415.02 GENERAL REQUIREMENTS**

Permittees shall conform to all applicable general design principles of the E & S Ordinance set forth in Chapter 50 and with all Best Management Practices for timber harvesting as described in the GFC document "Recommended Best Management Practices for Forestry in Georgia", and the U.S. Clean Water Act Section 404, EPA, 40 CFR, Part 232.3 (c)(6).

In addition, the following requirements shall be applied to all tree cutting, clearing, or clearing and grubbing projects:

- Residential Zoned Property
- The exterior boundary of the site shall have a buffer area 40 feet wide. Any tree cutting in this area shall be limited to the non-mechanical removal of pine (*Pinus spp.*) or yellow-poplar (*Liriodendron tulipifera*) trees with stump diameters greater than 14 inches; provided, that a minimum of 50 square feet of basal area per acre remains in good condition in the buffer area at completion of the project. The non-mechanical removal of dead, diseased, or insect infested trees is also allowed in this buffer (subject to verification by the Cobb County Arborist). Significant gaps in this buffer area shall require designing and implementing a replanting plan to be approved by the County Arborist.
- The interior of the site shall be restricted to a "Residential Thinning" whereby a minimum of 30 square feet of basal area per acre shall remain in addition to the buffer area described above (except where logging decks are established or grading activity is approved). Trees to be preserved to meet this requirement must be identifiable both before and after the cutting operation either by species or by a continuous marking around the trunk at 4.5 feet and at .5 feet above the ground. These trees must be left in good condition with no injuries to the trunk, crown, or root system, which would predispose them to disease or pest infestation.

- All pine logging slash with stems larger than five inches in diameter shall be chipped and returned to the site or removed from the site to reduce the possibility of insect infestations.
- The County Arborist may alter the "Residential Thinning" standards to address insect or disease infestations documented by a registered forester.
- All Sites Zoned Other than Residential
- The exterior boundary of the site shall have a buffer area 50 feet wide. This buffer area shall remain undisturbed except for approved access points. The non-mechanical removal of dead, diseased, or insect infested trees is also permitted (subject to verification by the Cobb County Arborist). Significant gaps in this buffer area shall require designing and implementing a replanting plan to be approved by the County Arborist.
- All pine logging slash with stems larger than five inches in diameter shall be chipped and returned to the site or removed from the site to reduce the possibility of insect infestations.

#### **415.03 PERMITTING**

Tree cutting, clearing, or clearing and grubbing projects, which result in the sale of timber shall, conform to State law regarding payment of taxes. A Georgia Department of Revenue Form PT-283T along with the required payment must be submitted to the Cobb County Tax Assessor's Office within the time frame prescribed by State law. Failure to do so shall be considered a violation of the Cobb County Erosion and Sedimentation Control Ordinance, as well as the tax law. Call the Tax Assessor's Office at 528-3100 for more information.

- Provide documentation regarding the type of timber sale, estimated date of purchase, and estimated PT-283T submittal date when submitting plans to the Community Development Agency for review.

Applications for tree cutting, clearing, or clearing and grubbing shall be in accordance with current land disturbance permit plan review procedures.

Plans and other supportive documents submitted for a Land Disturbance Permit for tree cutting in areas greater than five acres shall bear the signature of a registered forester.

The minimum size of plans shall be 11" x 14". The maximum size shall be 24" x 36".

Plans shall include the following information:

- Owner's name, address, and phone number;
- Consultant's and contractor's names, addresses, and phone numbers;
- Location/vicinity map;
- Land Lot(s) and district(s);
- North Arrow;
- Scale (minimum 1" = 100');
- Closed property boundary showing bearings and distances of all property lines;
- Current zoning of property;
- Current zoning of adjacent properties;

- Total acreage of property and approximate acreage of area to be disturbed;
- 24-hour emergency contact name and phone number(s) in bold type (no smaller than 20 point);
- Names of adjoining roadways;
- Location of and detail for the truck exit (crushed stone pad);
- Approximate location of the following land features:
  - all state waters
  - topography at 20' intervals (U.S.G.S. Quadrangle Map)
  - forest cover areas
  - 100-year floodplain
  - wetlands
- Limits of land disturbance activity;
- Approximate locations and dimensions of any logging decks;
- Location of any state water buffers (dimension 25 ft. undisturbed zones from the top of each bank);
- Location of the Streamside Management Zone (dimension required width);
- Approximate locations of any haul roads;
- Approximate locations of any stream crossings showing approximate width of crossing (bank to bank) and method of sediment control (rock rip-rap or culvert);
- Approximate locations of any historical features including cemeteries or a note indicating the absence of such on the site;
- Delineation and labeling of any required buffer zones around the perimeter of the property;
- A detail of the method to be used to delineate all buffers on the site;
- Expected time frame in which the operation will occur;

Additional information as may be required by Cobb County Staff to perform a proper review of the project and assure that the intent of the Soil Erosion and Sediment Control Ordinance is met; and the following notes:

- The Cobb County Community Development Agency reserves the right to require additional erosion and sedimentation control measures deemed necessary.
- The contractor shall implement all Best Management Practices for forestry as prescribed by the Georgia Forestry Commission and the U.S. Environmental Protection Agency.
- No trees may be cut in buffer zones marked "Undisturbed" on this plan.
- In perimeter buffer zones not marked "Undisturbed", tree cutting shall be limited to the non-mechanical removal of pine (*Pinus spp.*) or yellow-poplar (*Liriodendron tulipifera*) trees with

stump diameters greater than 15 inches; provided, that a minimum of 50 square feet of basal area remains in good condition in the buffer area at completion of the project. The non-mechanical removal of dead, diseased, or insect infested trees is also allowed in this buffer (subject to verification by the Cobb County Arborist).

- All buffers of State Waters shall remain undisturbed except for haul road crossing points.
- Projects that are restricted to a "Residential Thinning" must leave a minimum density of 30 square feet of basal area throughout all areas not designated as buffers or logging decks. Trees to be preserved to meet this requirement must be identifiable both before and after the harvest either by species or by a continuous marking around the trunk at 4.5 feet and at .5 feet above the ground. These trees must be left in good condition with no injuries to the trunk, crown, or root system that would predispose them to disease or pest infestations.
- All pine logging slash with stems larger than five inches in diameter shall be chipped and returned to the site or removed from the site to reduce the possibility of insect infestation.
- Logging decks, temporary haul roads, skid trails, and any other disturbed areas left idle for two to four weeks will be restored to their contours and established to temporary vegetation (Ds2). These disturbed areas left idle for four weeks or more will be established to permanent vegetation (Ds3). All areas remaining at the end of the project will be established to permanent vegetation within two weeks.
- When hand planting, mulch (hay or straw) should be uniformly spread over seeded area within 24 hours of seeding.
- During unsuitable growing seasons, mulch will be used to a temporary cover (Ds1). On slopes that are 4:1 or steeper, mulch will be anchored.
  - The Cobb County Clearing Permit must be displayed on site at all times during the project operation and in plain view from an adjacent County road or street.

Before any activity can begin, an inspection must be performed for basal area confirmation, erosion control devices, and buffer area delineation. At this time, the contractor must show a current Cobb County Business License or Registration Certificate. At completion of the project, a final inspection must be performed.

## **416 TREE PRESERVATION & REPLACEMENT**

These standards have been established under the authority of the Cobb County Tree Preservation and Replacement Ordinance (Ord. 9-27-88); specifically, Sections 50-221, 50-223 and 50-224 of the Official Code of Cobb County Georgia.

The Tree Preservation and Replacement Ordinance was enacted to provide standards for the preservation and/or replacement of trees as part of the land development and building construction process. The purpose is to make Cobb County a more attractive place to live, provide a healthy living environment, and better control stormwater runoff, noise, glare and soil erosion.

The intent of these standards is to provide the necessary information to facilitate development project design, plan review, and enforcement processes in order that the provisions of the ordinance are administered in the most effective, efficient and economical manner.

The terms and provisions of the Tree Preservation and Replacement Ordinance and these standards shall apply to any activity, private and/or governmental, on real property that requires the issuance of a land disturbance permit within Cobb County. No land disturbance permit shall be issued for full site development by the Community Development Agency without a determination that the proposed development is in compliance with the provisions of these regulations.

### **DEFINITIONS**

#### ***Buffer***

Water Quality Buffer: A designated area of adequate width to provide for protection of the streambank, channel soils and vegetative cover as determined by the Community Development Agency, adjacent to any state waters, water courses, or drainage areas, in which no land disturbing activities shall be undertaken unless approved in the plan. Such activities may include stream crossings for transportation routes or utilities construction; sewer and water line construction, and minor landscaping or channel improvement activities to stabilize critical areas.

Zoning Buffer: Any area required to remain undisturbed or to be planted as a condition of zoning.

#### ***Basal Area***

The cross-sectional area of a tree trunk at four and one-half feet above the ground or diameter breast-height (dbh) expressed herein in terms of "units" per acre.

#### ***Caliper***

The standard for trunk measurements of nursery stock. Caliper of the trunk shall be taken at six inches above the ground for trees up to and including four-inch caliper size, and 12 inches above the ground for trees larger than four-inch caliper.

#### ***Commercial Development***

Any development that is not a single-family residential subdivision.

#### ***Construction Permit***

A permit issued on-site by Community Development site inspection staff to allow the commencement of any clearing, grubbing and/or grading. This permit is issued only after a Land Disturbance Permit has been issued, and all erosion control and tree protection measures have been installed in accordance with the approved plan.

***Critical Root Zone***

The minimum area beneath a tree which must be left undisturbed in order to preserve a sufficient root mass to give a tree a reasonable chance for survival. The Critical Root Zone of any given tree shall be represented by a concentric circle with a radius equal to 12 times the diameter of the tree trunk.

***Density Factor***

A unit of measure used to prescribe the calculated tree coverage on a site.

***Diameter***

Diameter Breast-Height (DBH): The standard measure of tree size (for trees existing on a site). The tree trunk is measured at a height of four and one-half (4.5) feet above the ground. If a tree splits into multiple trunks below 4.5 feet, measure the trunk at its most narrow point beneath the split.

***Director***

Director of the Community Development Agency or the successor to those duties, by whatever title designated, or the director's designee.

***Hardwood Tree***

Any tree that is not coniferous (cone bearing). This definition is based on the colloquialism and does not necessarily reflect any true qualities of the tree.

***High Value Forest***

A forest composed of mature hardwood trees, or a stand of mature softwood trees that have a critical environmental function such as erosion control on steep slopes, screening or buffering. Only trees in good condition are considered elements of such a forest.

***Land Disturbance Permit***

The authorization necessary to begin land-disturbing activity.

***Land Disturbing Activity***

Any land change which may result in soil erosion from water or wind and the movement of sediments into the waters or onto land within Cobb County, including but not limited to clearing, grubbing, stripping, dredging, grading, excavating, transporting and filling of land.

***Overstory Tree***

A tree of a species or variety thereof that, under normal forest conditions will compose the top layer or canopy of vegetation and generally will reach a mature height of greater than 40 feet.

***Parking Bay***

A set of contiguous parking spaces and the adjacent islands and peninsulas devoted to planting trees at either end and interior to said sets of parking spaces.

***Protected Zone***

All areas of the parcel required to remain in open space, and all designated buffers or tree save areas, or conditions of zoning approval.

***Replacement Tree***

A new tree planted on a site to meet minimum site density factor requirements (regardless of whether trees existed prior to any development).

***Root Zone***

The area adjacent to a planted tree in which roots can grow unimpeded.

***Softwood Tree***

Any coniferous (cone bearing) tree. This definition is based on the colloquialism, and does not necessarily reflect any true qualities of the tree.

***Specimen Tree***

Any tree which qualifies for special consideration for preservation due to its size, type and condition. See Section 416.05 for specific criteria defining specimen trees.

***Street Yard***

Any area of the site that abuts a public right-of-way (or improved access-way providing access to the interior of a development).

***Subdivision***

A single-family residential development.

***Tree***

Any living, self-supporting woody perennial plant which normally obtains a trunk diameter of at least two inches and a height of at least ten feet, and typically has one main stem or trunk and many branches.

***Tree Save Area***

All areas designated for the purpose of meeting tree density requirements, saving specimen trees, and/or preserving natural buffers.

***Understory Tree***

A tree of a species or variety thereof that, under normal forest conditions grows to maturity beneath overstory trees and will generally reach a mature height of less than 40 feet.

**416.02 DENSITY REQUIREMENTS**

The tree density required by the Tree Preservation and Replacement Ordinance may be achieved by counting existing trees to be preserved, planting new trees, or some combination of the two as represented by the formula:  $SDF = EDF + RDF$  (see below). The tree density requirement must be met whether or not a site had trees prior to development.

**416.02.01 Site Density Factor**

Site Density Factor (SDF) is the minimum tree density required to be maintained on a developed site (15 units per acre). The SDF is calculated by multiplying the number of site acres by 15. Determine the affected site acreage by starting with the area of the parcel(s) of land on which the project is located. Add the area of any off-site slope easements and subtract the area of any 100-year flood plain, wetland or utility easement.

**416.02.02 Existing Density Factor**

Existing Density Factor (EDF) is the density of existing trees to be preserved on a site. Trees that exist in any 100-year flood plain, wetland or utility easements cannot be counted toward meeting tree density requirements, unless they are in an undisturbed buffer containing a restrictive covenant in favor of Cobb County for conservation uses.

The EDF is calculated by converting the size of individual trees to density factor units. See Table A below.

<b>Table A</b> <b>DIAMETER SIZE TO UNIT VALUE</b> <b>For existing trees to be preserved</b>		
<b>SIZE CLASS</b>	Diameter (dbh)	Unit Value
1	1 – 4 inches	0.1
2	5 – 8 inches	0.3
3	9 – 12 inches	0.6
4	13 – 16 inches	1.2
5	17 – 20 inches	1.9
6	21 – 24 inches	2.8
7	25 – 28 inches	3.8
8	29 – 32 inches	5.1
9	33 – 36 inches	6.5
10	37 – 40 inches	8.1
The unit value of any individual tree may be determined by using the formula: $(\text{Diameter})^2 \times .7854 \div 144$		

#### **416.02.03 Replacement Density Factor**

Replacement Density Factor (RDF) is the density of new trees to be planted on a site. Calculate the RDF by subtracting the EDF from the SDF.

The density factor credit for each size of replacement tree is shown in Tables B-1 through B-3.

Any number or combination of transplantable sized trees can be used as long as the total density factor units will equal or exceed the RDF and the species mix is acceptable to the Community Development Agency.



<b>Table B-1</b> <b>CALIPER SIZE TO UNIT VALUE</b> <b>For deciduous trees normally sold by caliper size</b>	
Caliper Size	Unit Value
1 – 1½ inches	.4
2 – 2½ inches	.5
3 – 3½ inches	.6
4 – 4½ inches	.7
5 – 5½ inches	.9
6 – 6½ inches	1.0
7 – 7½ inches	1.2
8 – 8½ inches	1.3

<b>Table B-2</b> <b>HEIGHT TO UNIT VALUE</b> <b>Deciduous Trees Not Normally Sold by Caliper Size</b>	
Height	Unit Value
6 - 8 feet	.4
10 – 12 feet	.5
14 – 16 feet	.6
18 – 20 feet	.7
22 – 24 feet	.9

<b>Table B-3</b> <b>HEIGHT TO UNIT VALUE</b> <b>Evergreen Trees</b>	
Height	Unit Value
5 - 6 feet	.4
7 - 8 feet	.5
10 - 12 feet	.6
14 - 16 feet	.7
18 - 20 feet	.9
All evergreens other than pines must be a minimum of 5 to 6 feet height at the time of planting. Height rather than caliper size will determine the unit value of evergreens.	

If a tree is specified on the plan to be of a size that falls between two size classifications, the lower number will determine the unit value to be assigned. For example:

Willow Oak	3½ - 4 inches	.6 unit
River Birch	12 - 14 feet	.5 unit
Southern Magnolia	6 - 7 feet	.4 unit

### ***Unique Density Requirements***

#### **Subdivision Developments**

Every lot in a subdivision shall have a minimum of two units of trees. These trees can be counted as part of the required 15 units per acre, but in no event shall any residential lot have less than 2 units of trees. If trees must be planted on any lot, these trees must be a minimum of two (2) inches in caliper, and at least one of the trees must be a minimum of three (3) inches in caliper and planted in the front setback area. This requirement shall apply to the developer or homebuilder, whoever is responsible for obtaining the certificate of occupancy for the individual lot.

The county shall require that improvements be located so as to result in minimal disturbance to the natural topography of the lots and the protection of the maximum number of mature trees on the lot. It is the specific intent of this section to require that damage to mature trees located within setback and required yard areas be minimized to the greatest degree possible under the particular circumstances, as determined by county staff. If a reasonable option has been considered or presented to the county which would preserve the maximum amount of forest cover if not for conflicting with other regulations established by the county code or the county's development standards, the director of community development or his/her designee may issue an administrative variance in accordance with section 134-35.

Subdivision developments proposed in areas that are primarily pastureland may meet Tree Ordinance requirements in one of the following ways:

- Plant trees at 15 units per acre based on the area of the subdivision infrastructure (road rights-of-way, utility easements and drainage structures); or,
- Preserve and/or plant trees at 15 units per acre based on the area of the entire subdivision.

Tree Preservation areas for subdivisions should all be in common areas, or in buffers required to be undisturbed by zoning or other regulations. If tree preservation areas must be on individual lots, the lots must be of sufficient size to reasonably expect the trees to be preserved at the completion of the building process.

### **Commercial Developments**

A sufficient number of trees must be planted in interior portions of parking lots to achieve a ratio of one tree per 1,140 square feet of parking bay area. In addition, every parking space must be within 50 feet of the trunk of a tree to assure uniform distribution of trees throughout the parking area.

Any redevelopment project that results in the removal and replacement of 25 percent or more of an existing parking lot (other than routine maintenance of the parking surface) must retrofit the entire parking lot to meet the tree-planting standard in the previous paragraph.

All street yards shall be planted with one tree for each thirty-five (35) linear feet exclusive of driveways, access ways and sight distance triangles.

Trees planted to meet the parking lot and street yard requirements must meet or exceed the minimum standards specified in Section 416.04.

Parking lot or street yard trees can be counted as part of the required 15 units per acre, but they may be an additional requirement if the 15-unit per acre requirement is met elsewhere on the site.

### **Outparcels to Shopping Centers**

These shall meet all Tree Ordinance density requirements separate from the overall shopping center.

### **Subdivision Amenity / Recreation Areas**

These shall meet all Tree Ordinance density requirements separate from the overall subdivision.

### **Clearing Only Permits**

See Cobb County Development Standards and Specifications Section 415.

### **Grading Only Permits**

Grading projects for which no full site plans have been submitted for review by Cobb County staff are subject to the same buffer requirements as clearing operations. The grading plan shall conform to the review requirements listed in the Cobb County Development Standards and Specifications Section 103.04 (Borrow/Fill Permit). An estimated completion date must be noted on the plan.

Buffer areas that must be landscaped shall be planted at the completion of the grading project or postponed to an appropriate planting season provided that appropriate performance security arrangements are made. Planted buffers are subject to maintenance inspection procedures.

Compliance with Tree Ordinance requirements for speculative grading may be postponed for up to six (6) months provided that appropriate performance security arrangements are made.

#### **Additions to Existing Projects**

For additions to existing projects, the 15 units per acre density requirement may be met in one of the following ways:

- Calculate the area of any new land disturbance and/or improvements and add replacement trees based on that area (existing trees elsewhere on the site may not be counted with this option); or,
- Base density requirements on the total site area and count any existing trees on the site (subject to all restrictions noted elsewhere in these standards).

#### **Phased Projects**

Where development will occur in increments, density calculations may be based on a site area defined by an established or estimated phase line or construction limit line. Existing trees to be counted toward meeting the density requirements must be within the phase line or limits of construction.

### **416.03 TREE PRESERVATION STANDARDS**

The following section establishes standards by which plans and field conditions are to be evaluated to determine compliance with the tree preservation intent of the Cobb County Tree Preservation and Replacement Ordinance.

#### **416.03.01 Tree Inventories and Surveys**

All trees that are to be counted toward meeting density requirements must be inventoried.

Projects over two acres must provide a plan delineating all ground cover-types (including pasture or forest) on the site and a general description of the types of trees and range of tree sizes in each forest cover-type (e.g. Mixed pines and upland hardwoods 12" to 20" dbh).

Any tree with a trunk diameter of ten (10) inches or greater that has a surveyed location shown on the plan will receive double the normal unit value credit if there is to be no construction activity in that tree's critical root zone (CRZ). These trees must be represented on the plan by a circle the size of the CRZ.

Sampling methods may be used to determine tree densities for large forested areas subject to prior approval of the Cobb County Arborist. Written guidelines for performing sample inventories can be obtained from the Arborist.

Specimen trees must be shown on the plan with an indication whether they are to be retained or removed. Surveyed locations are requested when the preservation of a specimen tree is questionable, or when a site design alteration is feasible. Approximate locations are acceptable otherwise.

#### **416.03.02 Plan Review Standards**

All Protected zones must be delineated on the plan along with the location of tree protection devices.

Protected zones must be of sufficient size to reasonably expect the majority of trees growing there to survive the proposed construction impacts. When proposed construction impacts are, in the

opinion of the County Arborist, likely to cause severe decline and/or death of an affected tree, that tree will not receive credit for meeting Tree Ordinance requirements.

All buffers with existing trees must be delineated on plans as Tree Save Areas. Land disturbance within any buffer is subject to Community Development Agency approval. The applicant must clearly demonstrate the need for the proposed disturbance.

For subdivisions, all buffers shall be delineated on the final plat and identified as preservation easements. Final plats must also identify any individual lots with other tree preservation and/or planting requirements. These lots must be identified on the plat with a symbol and a corresponding note indicating the homebuilder's responsibility for such tree preservation and/or planting requirements.

#### **416.03.03 Construction Standards**

##### **Purpose of Tree Protection Devices**

Tree protection devices are necessary to eliminate activities detrimental to trees including but not limited to:

Soil compaction in the critical root zone resulting from heavy equipment, vehicular or excessive pedestrian traffic, or storage of equipment or materials;

Root disturbance due to cuts, fills or trenching;

Wounds to exposed roots, trunks or limbs by mechanical equipment;

Other activities such as chemical storage, cement truck cleaning, fire, etc.

##### **Location and Types of Tree Protection Devices**

Tree protection devices are to be installed as shown on the plan or otherwise completely surrounding the critical root zone of all trees to be preserved.

The installation of all tree protection devices will be verified prior to the issuance of the construction permit for clearing and/or grading, and again, prior to the approval of the final plat for subdivisions.

Once protected zones are established and approved, any changes are subject to Community Development Agency review.

##### **Materials**

Tree protection shall consist of chain link, orange laminated plastic, wooden post and rail fencing or other equivalent restraining material. In addition to fencing, where tree trunks are in jeopardy of being damaged by equipment, 2 x 4-inch boards may be requested to be strapped around the trunks of the trees.

##### **Sequence of Installation and Removal**

All tree protection devices shall be installed prior to any clearing, grubbing or grading, or at the same time as the installation of erosion and sedimentation control devices. Tree protection must remain in functioning condition throughout all phases of development and construction.

Tree protection fences must be installed in accordance with the approved land disturbance permit. For projects less than two (2) acres, Cobb County staff will verify appropriate tree fence installation. For projects greater than two (2) acres, a professional designer must verify the tree protection fences were installed as shown on the approved plans or in locations that provided better tree

preservation potential. This verification must be submitted to the Community Development Agency prior to the approval of the final plat for residential subdivisions, or prior to the issuance of building permits for commercial projects.

### **Other Specifications**

Clearing - Where clearing has been approved, trees shall be removed in a manner that does not adversely impact the trees to be preserved. Avoid felling trees into protected zones or disturbing roots inside the protected zones.

When digging near trees, the contractor shall prune all exposed roots one (1) inch in diameter and larger on the side of the trench adjacent to the trees. Pruning shall consist of making a clean cut flush with the side of the trench to promote new root growth. Pruned roots shall be protected from drying and backfilled as soon as possible.

Pruning of tree limbs to provide clearance for equipment and materials or for any other reason shall be done according to standard arboricultural practice (See ANSI A300-2001 Standards for Tree Care Maintenance Operations Part 1 and ANSI Z133.1 American National Standard for Tree Care Operations Safety Requirements).

Erosion and Sedimentation Control - All erosion and sedimentation control measures shall be installed in a manner that will not result in the accumulation of sediment in a protected zone.

Signage - All protected zones shall be designated as such with "Tree Save Area" signs posted visibly on all sides of the fenced-in area. These signs are intended to inform subcontractors of the tree protection process. Signs requesting subcontractor cooperation and compliance with the tree protection standards are recommended for site entrances.

## **416.04 TREE REPLACEMENT STANDARDS**

The following section establishes standards by which plans and field conditions are to be evaluated to determine compliance with the tree replacement intent of the Cobb County Tree Preservation and Replacement Ordinance.

Tree replacement plans should be prepared with appropriate consideration given to the function of trees in the urban landscape. Every effort should be made to maximize the environmental benefits of the plant materials.

### **416.04.01 Planting Specifications**

Trees selected for planting must be free from injury, pests, disease, nutritional disorders or root defects, and must be of good vigor in order to assure a reasonable expectation of survivability.

Standards for transplanting shall be in keeping with those established in the International Society of Arboriculture publication, *Tree and Shrub Transplanting Manual* or similar publication. Reference the American Association of Nurserymen publication *American Standard for Nursery Stock* (ANSI Z60, 1973) for plant material quality specifications. Reference the *Manual of Wood Landscape Plants* (Michael Dirr, 1983, Castle Books) or similar publication for information on tree species site requirements.

### **416.04.02 Species**

Species selected as replacement trees must be quality specimens, and must be ecologically compatible with the intended growing site.

Flowering ornamental species are typically not acceptable for use in meeting density requirements.

When less than 10 trees are shown to be planted on a project, one species of tree may be specified. When 10 to 50 trees are shown, a minimum of three species of trees are required. When more than 50 trees are shown, a minimum of five (5) species of trees are required.

When 10 or more trees are to be planted, no single genus shall represent more than 30 percent of the Required Density Factor.

Where summer shading is required or recommended, the use of deciduous overstory tree species is necessary.

#### **416.04.03      Parking Lots and Street Yards**

All root zones must be a minimum of eight (8) feet in width (measured from back-of-curb where curbing is installed or edge of pavement otherwise).

The root zone for overstory trees must be a minimum of 200 square feet. If that area is shared with other trees, add 80 square feet for each additional tree.

The root zone for understory trees must be a minimum of 100 square feet. If that area is shared with other trees, add 40 square feet for each additional tree.

Parking lot islands, peninsulas and medians must have clean, cultivated soil to a total depth of two and one-half (2½) feet. Native subsoil is acceptable in parking lot islands, peninsulas and medians if the entire area is amended with appropriate soil improvements and thoroughly tilled. Otherwise, loamy topsoil is required.

Parking lot islands and medians must be covered with four (4) inches of organic mulch material replaced as needed. To discourage soil compaction from pedestrian traffic, these areas may be planted with low evergreen shrubs. To reduce root zone competition, grass is typically not permitted in these islands and medians. Variances to this requirement (as it relates to the prohibition of grass) shall be reviewed on a case-by-case basis by the County Arborist or County Landscape Architect.

Light poles are prohibited in parking lot islands, peninsulas and medians unless a lighting plan is submitted for review and approval by the County Arborist or County Landscape Architect.

No fastigate (narrow crowned) varieties of trees are permissible in parking lots.

Trees planted to meet parking lot and street yard requirements must be a minimum of two (2) inches in caliper.

The use of at-grade planting areas in parking lots to promote stormwater runoff treatment and to supplement irrigation needs is encouraged; provided that the trees planted there will not be adversely impacted and that the system is designed by a licensed, professional civil engineer.

Where street yard trees will be planted within 16 feet of the edge-of-pavement of a public street with a design speed of 45 mph or higher, or in areas beneath overhead utility lines, the use of an understory species is required.

#### **416.04.04      Irrigation**

Newly planted trees and existing trees subjected to construction impacts typically need supplemental watering when rainfall is inadequate. Commercial project applicants should be prepared to discuss how trees are to be watered during their establishment or transition period, and to possibly note on the plan the proposed method of irrigation.

#### **416.04.05 Public Street Rights-of-way**

Trees planted within publicly maintained street rights-of-way cannot be counted toward the tree density requirement for a site unless otherwise approved by the Community Development Agency and the County Department of Transportation.

Indemnification and maintenance agreements for commercial properties must be recorded with the Cobb County Department of Transportation prior to plan approval for within County rights-of-way.

#### **416.04.06 Subdivisions**

Trees shown to be planted in common areas within a subdivision (outside of amenity areas) shall be planted by the subdivision developer. These trees must be in place before the final plat is approved, unless fiscal surety is provided and approved by the Director of Community Development.

Trees shown to be planted on individual lots must be planted by the homebuilder. These trees must be in place before the certificate of occupancy for the affected lot is approved, unless fiscal surety is provided and approved by the Director of Community Development.

### **416.05 SPECIMEN TREES**

#### **416.05.01 Identification**

Some trees on a site warrant special consideration and encouragement for preservation. These trees are referred to as specimen trees.

The following criteria are used by the Community Development Agency to identify specimen trees. Both the size and condition criteria must be met for a tree to qualify.

##### Size Criteria:

Overstory hardwoods:	30-inch diameter or larger
Overstory softwoods:	36-inch diameter or larger
Understory trees:	12-inch diameter or larger

##### Condition Criteria:

Life expectancy of greater than 15 years;  
Relatively sound and solid trunk with no extensive decay;  
No more than one major and several minor dead limbs (hardwoods only);  
No major insect or pathological problem.

#### **416.05.02 Preservation**

In order to encourage the preservation of specimen trees and the incorporation of these trees into the design of projects, additional density credit will be given for specimen trees that are successfully saved by a design feature specifically designated for such purpose. Credit for any specimen tree thus saved would be three (3) times the assigned unit value shown in Table A under Section 416.02.



#### **416.05.03 Removal, Replacement and Preservation**

If a specimen tree is to be removed, a plan or written documentation indicating the reason for the removal must be submitted to the Community Development Agency.

The removal of any specimen tree must be mitigated in one or more of the following manners:

- ✓ Replace the removed specimen tree with minimum four-inch caliper trees of comparable species at a rate equal to the unit value of the tree removed. These replacement trees would be in addition to the 15-unit per acre minimum requirement. In no instance shall this additional requirement cause the density requirement for the development to exceed 25 units per acre.
- ✓ In addition to the minimum 15 unit per acre requirement, preserve stands of high value forest or specimen trees at a rate 3 times the unit value of the removed specimen tree(s). Such areas must be outside of the 100-year flood plain, wetlands and buffers, unless in an undisturbed buffer containing a restrictive covenant in favor of Cobb County for conservation uses. Trees for which recompense credit is given must have surveyed locations and must be shown on the plan with concentric circles representing their Critical Root Zones. Recompense trees shall not receive the extra credit outlined in Section 416.03.01. Protective fencing must be established at the limits of the CRZ. Such additional tree preservation areas shall be platted as such and go with the land. Live trees cannot be removed from such areas without a permit from the Community Development Agency.

Any specimen tree that is removed after being designated for preservation on an approved plan (without the appropriate review and approval of the Community Development Agency) must be replaced by trees with a total density equal to three (3) times the unit value of the tree removed, irrespective of the unit per acre minimum requirement. If a tree is removed without approval and there is no evidence of its condition, size alone will determine whether the tree was of specimen quality.

#### **416.06 ALTERNATIVE COMPLIANCE**

The intent of the Tree Preservation and Replacement Ordinance is to insure that a minimum density of trees is maintained on all developed sites. Occasionally, this intent cannot be met because a project site will not bear the required density of trees. To provide some alternatives in such cases, two methods of compliance are acceptable: 1) Planting at a location remote from the project site; or, 2) contributing to the Cobb County Tree Replacement Fund.

The following standards have been established for administering these alternative compliance methods:

- The Community Development Agency must review and approve all requests for alternative compliance. In no instance, shall 100 percent of the required site density factor be met through alternative compliance. As many trees as can reasonably be expected to survive must be planted on the site in question.
- The land disturbance permit will only be issued after the Community Development Agency has approved the request and received the necessary documentation and/or funds.

#### **416.06.01 Off-Site Planting**

If trees are to be planted at another location within Cobb County, the following criteria must be observed:

- The off-site location should be in the same area of the county as the project site.
- A tree replacement plan meeting all applicable standards in these guidelines must be reviewed and approved.
- The following note must be shown on the approved plan:

A tree replacement plan addendum for this project shall be submitted to the Cobb County Community Development Agency at least thirty (30) days from the date of this land disturbance permit. This plan shall include the species, size and location of trees to be planted off-site to meet the tree density deficit shown. Release of this project is subject to approval of this plan as well as verification of the installation of the trees.

#### **416.06.02 County Tree Replacement Fund**

As another method of alternative compliance, Cobb County will accept donations that will be used for the sole purpose of planting trees on public property.

##### ***Calculating Contribution Amounts***

Contribution calculations are based on two (2) inch caliper replacement trees with a value of \$220.00, representing the average size and cost of materials, labor and guarantee for trees planted in the Cobb County area.

To determine the appropriate contribution, first calculate the Density Factor Deficit (DFD) or unit value that cannot be planted on the site. Divide the DFD by .5 (the unit value of a 2" caliper replacement tree) and multiply by \$220.00.

EXAMPLE: A 2.2 acre site has a required Site Density Factor (SDF) of 33.0, an Existing Density Factor (EDF) of 21.4, and can only accommodate a Replacement Density Factor (RDF) of 9.0.

Determine the Density Factor Deficit (DFD) using the formula:

$$\text{DFD} = \text{SDF} - \text{EDF} - \text{Approved RDF}$$

In this example,  $\text{DFD} = 33.0 - 21.4 - 9.0 = 2.6$

Determine the acceptable contribution amount as follows:

$$2.6 \div .5 \times \$220.00 = \$1,144.00$$

##### ***Fund Administration***

The Cobb County Tree Replacement Fund will be administered by the Community Development Agency. A quarterly report shall be submitted to the County Manager showing amounts collected, amounts spent, and the types and locations of trees planted. The report will be made available to the Board of Commissioners upon their request.

#### **416.06.03 Parking Lot and Street Yard Requirements**

If sufficient cause is demonstrated that the parking lot and street yard planting requirements cannot be met, then the plan must show a method of alternative compliance that is equal to or exceeds the minimum requirements.

Sufficient cause is deemed to be when enforcing any of the parking lot or street yard requirements would cause the applicant to violate any state or federal law or any Cobb County ordinance or zoning stipulation specific to the applicant.

#### **416.07 TREE PRESERVATION AND REPLACEMENT PLAN REQUIREMENTS**

The tree preservation and/or replacement plan shall be submitted as a separate sheet or as part of other site drawings; provided that all required information is legible. The plans for projects over two (2) acres of disturbed area shall be sealed and signed by a registered landscape architect.

##### **416.07.01 Full Land Disturbance Permits**

The following information must be shown on the plan:

- All items found on the Erosion and Sedimentation Control submittal checklist pertinent to normal plan review
- Total site area and site area used to determine the Site Density Factor
- The locations of existing and proposed improvements, including structures, paving, driveways, cut and fill areas, detention areas, etc.
- Calculations showing compliance with the required Site Density Factor using existing trees, replacement trees, and/or contributions to the Cobb County Tree Replacement Fund
- A narrative to document any alternative compliance arrangements approved by the County Arborist
- Parking lot analysis showing the number of required and actual parking spaces, the square footage of all parking bays, and the number of required parking lot trees
- Streetyard analysis showing the linear feet of streetyard and the number of required streetyard trees
- Locations of all specimen trees showing each tree's Critical Root Zone and an indication whether the tree is to be removed or preserved
- Locations of all tree protection devices, materials to be used in each area, and details
- Location of any state waters with required buffers
- Location of any buffers required by the zoning ordinance or by a re-zoning stipulation and a planting plan for those buffers
- Location of and details for any permanent tree protection devices such as tree wells, aeration systems, retaining walls, etc.
- Locations of all existing and proposed utility lines or easements
- A plant schedule with columns for the :
  - (1) common name, (2) botanical name, (3) quantity, (4) size, (5) individual tree unit value, (6) species unit value, and (7) percent of the species unit value to the total unit value
- The locations of all trees to be planted on the site to meet density requirements

- For trees to be planted in any publicly maintained street right-of-way, show the shoulder section showing placement of trees in relation to the curb and underground utilities

Additional information as required on a case-by-case basis

The following notes must be shown on the plan:

### **All Projects**

Tree protection devices must be installed and inspected prior to any clearing, grubbing or grading. For projects over two (2) acres, a professional designer must verify that the tree protection fences were installed as shown on the approved plans or in locations that provided better tree preservation potential. Submit this verification prior to the approval of the final plat for residential subdivisions or prior to the issuance of the building permit for commercial projects.

A pre-construction conference is required prior to the issuance of the on-site construction permit. Call the Site Inspections Section at (770) 528-2147 to arrange a meeting at the site.

Tree protection and replacement shall be enforced according to Cobb County standards. Any field adjustments to tree protection device types or locations or substitutions of plant materials shown on the approved plans are subject to the review and approval of the Cobb County Arborist or County Landscape Architect.

Buffers must be planted to Cobb County Standards where sparsely vegetated or where disturbed for approved utility or access crossings.

The density requirements shown on the Tree Preservation and/or Replacement Plan(s) must be verified prior to the issuance of the Certificate of Occupancy or acceptance of the Final Plat. Call the Development Inspections Division at (770) 528-2124 for an inspection. A performance bond, letter-of-credit or escrow account will be accepted if plant materials must be installed at a later date.

### **Commercial Projects Only**

Parking lot islands, peninsulas and medians must have clean, cultivated soil to a total depth of two and one-half (2½) feet. Native subsoil is acceptable in these areas if the soil is amended with appropriate soil amendments and thoroughly tilled. Otherwise, loamy topsoil is required.

Parking lot islands and medians must be covered with four (4) inches of organic mulch material (replaced periodically). To discourage soil compaction from pedestrian traffic, these areas may be planted with low evergreen shrubs, but not with grass.

Light poles are not permitted in parking peninsulas, islands and medians without the prior approval of the County Arborist or County Landscape Architect. Call 770-528-2124.

Fiscal surety for maintenance of planted trees must be in place prior to the issuance of the certificate of occupancy. A maintenance inspection will be performed prior to the scheduled release date of the posted fiscal surety to determine the health of the trees planted to meet the requirements of this ordinance as well as any buffer plantings.

### **Subdivisions Only**

Tree protection fences for subdivisions shall be installed by the developer at the same time as erosion control devices. The developer is responsible for maintenance of tree protection fences until building commences on a lot. At that time, the building contractor is responsible for maintenance of the fence on the lot.

## **416.08 INSPECTIONS**

### **416.08.01 Pre-construction Conference**

Prior to the issuance of a construction permit, an inspection will be required to verify correct installation of tree protection devices and to discuss any issues with the contractor concerning tree planting.

### **416.08.02 Final Inspection**

Prior to the release of the certificate of occupancy or final plat approval, an inspection will be performed to assure compliance with the tree preservation and replacement plan. Any required irrigation must be operational at this time. Hose bibs and other watering devices specified on the plans will be verified, and buffer plantings will be inspected.

### **416.08.03 Maintenance Inspection**

Prior to the scheduled release date of the fiscal surety, an inspection will be performed by the County Arborist or Landscape Architect to determine the health of all planted trees.

Any planted materials that are dead, missing or in a state of irreversible decline at the time of that inspection must be replaced by the responsible party named on the surety instrument.

The Community Development Agency shall provide the responsible party with a written evaluation of what trees need to be replaced and the time frame within which replacement is to occur.

Any trees in a reversible state of decline will be noted and subject to monitoring at later dates. If such trees die after the release of the surety instrument, they will become the responsibility of the current owner to replace.

## **416.09 FISCAL SURETY**

Fiscal surety shall be required as specified in Section 50-224 of the Tree Preservation and Replacement Ordinance. The amount of the surety shall be 110 percent of the cost of all required plant materials and the cost of the installation and guarantee of those materials. The surety may be in the form of an escrow agreement, letter of credit or maintenance bond. The surety shall be prepared on forms provided by the Community Development Agency.

The expiration date of the surety instrument shall be determined as 30 months from the date of the final landscape inspection. For all plant materials that will be irrigated by an automated irrigation system, the surety expiration can be reduced to 18 months.

If the original developer sells, transfers, assigns or conveys in any manner all or a portion of the property prior to the expiration date of the surety instrument, the original developer shall maintain the surety instrument until the expiration date. However, if an alternative surety instrument satisfactory to the Community Development Agency is provided by the subsequent owner of the property, the original developer may be partially or totally released from the developer's obligation under the original surety instrument upon receipt of written notification from the Community Development Agency accepting the alternative surety instrument. The alternative surety instrument must satisfy all requirements of the tree preservation ordinance and standards and specifications.

All or part of the surety may be called if the conditions of the County Arborist's or Landscape Architect's maintenance inspection letter are not met.

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## **418 DAMS**

### **418.01 PERMANENT POOL IMPOUNDMENTS**

#### **418.01.01 General Criteria**

Cobb County Dam Regulations shall apply to all new, rebuilt, or modified stormwater impoundments, including appurtenant works, with the exception of:

Any Category I Dam requiring permitting under the control of the Georgia Safe Dams Program;

Any dam owned and operated by any department or agency of the United States Government;

Any newly constructed dam financially assisted by the United States Natural Resource Conservation Service or any other department or agency of the United States Government when such department or agency designed or approved plans and supervised construction and maintains a regular program of inspection of the dam; and

Any dam licensed by the Federal Energy Regulatory Commission or for which a license application is pending with the Federal Energy Regulatory Commission.

Any dam currently constructed and operating is hereby grandfathered in its present state with the owner assuming all rights, responsibilities, and liabilities thereof. Any existing dam that is modified, other than for maintenance activities, becomes subject to these requirements.

All new dams of 25 vertical feet in height (or greater), impoundments containing a maximum storage volume of at least 100 acre-feet, or dams which have been ruled Category II by the Safe Dams Program shall be designed and constructed according to Category I Spillway Standards, as promulgated by the Safe Dams Program under the direction of a Georgia Licensed Civil Engineer and a Georgia Licensed Geotechnical Engineer, both experienced in the design and construction of dams. All dam heights will be measured from the streambed at the downstream toe to the top of dam.

Prior to construction of any dam over 15 vertical feet or any dam impounding more than 50 acre-feet, the contractor shall provide to Cobb County sufficient documentation of his qualifications to construct dams.

A pre-design meeting shall be held with representatives of the Stormwater Management Division of the Cobb County Water System, to review any proposed dam or proposed dam changes for any dam over 15 vertical feet or impounding more than 50 acre-feet.

Depending on the level of downstream risk and size of impoundment, Cobb County may require a dam breach analysis to be submitted for any proposed or existing dam impacting a proposed development, utilizing the National Weather Service's DAMBREAK Program or other methodology approved by the Georgia Safe Dams Program. A DAMBRK analysis will be required for all Category I and II dams. When a dam breach analysis is required by Cobb County, as a minimum a sunny day dam breach analysis shall be performed under full pool conditions.

Guidelines are available from the State of Georgia Safe Dams Program (EPD) to assist the design/construction professional. Dam design documents shall include, but not be limited to:

Technical specifications;

Hydrology/hydraulic report;

Geotechnical report (with borrow study applicable);

Drainage basin map with land use and land improvement parameters;

Existing topography of site;

Dam     = Plan view  
          = Sections at all critical points  
          = Details, complete

names and professional seals of design civil engineer and geotechnical engineer with 24-hour contact; and designated contractor, if available.

Because of the variables associated with selecting spillway(s), outlet device(s) or appurtenant structure(s) to suit a given site condition, the design consultant is responsible for the selection, subject to the review and approval of the Stormwater Maintenance Division. The Division will include in its consideration the ease of maintenance, longevity of the system, blockage potential, and practicality of operations.

No orifice shall be less than 3 inches in diameter unless it is installed to meet a State or local requirement.

All risers (standpipes) shall be equipped with a debris deflector (trash rack) and an anti-vortex device. To facilitate outlet operation, curved or inclined trash racks designed to allow debris to rise with the water level are preferred. In all cases, trash racks shall be either hinged or removable to facilitate maintenance operations. Corrugated metal pipe is not permitted for standpipes.

**Spillways:** Every dam shall be provided with a principal spillway, fully capable of passing at least the 50-year flood, with excess spillway capacity provided by the emergency spillway(s) capable of handling excess flows up to the design storm. The principal spillway can be sized for floods of less magnitude than the 50-year flood only if the emergency spillway is appropriately armored against scour with concrete or other suitable lining as protection against more frequent usage.

**Principal Spillway:** All spillways shall be analyzed (hydraulically rated) for both inlet and outlet control conditions using appropriate tailwater ratings. If a control-box or weir-box is affixed, then the total system (inlet control box and outlet conduit) shall be hydraulically rated to determine the stage-discharge relationship.

**Emergency Spillway(s):** For every type of water impounding facility, a planned safe flow path must be provided for conveyance of flows of water in an emergency. In many instances, this function can be provided through installation of an emergency spillway. Emergency spillways may be excavated open channels, either vegetated or paved with reinforced concrete, weir sections of concrete walls, or appropriately designed conduit.

Any portion of an open channel spillway excavated into a dam embankment or other fill section must be paved with reinforced concrete equipped with appropriate seepage controls, underdrainage, and cut-off walls.



Any portion of any spillway excavated into undisturbed residual soil shall be vegetated in accordance with the practices described in the "Manual for Erosion and Sediment Control in Georgia" or protected against scour and erosion by other suitable measures if vegetation does not provide adequate stabilization. If the spillway is activated by storms smaller than the 50-year frequency, then vegetation alone will not be considered sufficient protection against scour according to these standards.

A 12 foot combined drainage and permanent access easement shall be established around the pond at the 100 year pool level or at the elevation of top of dam, whichever is greater to provide access and permanently prevent usage or modification of this flood storage area. A 12 foot combined easement shall also be provided along the toe of the dam. A 20-foot access easement from the public right of way shall be provided.

**Emergency Draining of the Lake:**

Upon obtaining evidence which indicates that a potentially hazardous condition may exist, such as:

Excessive leakage transporting soil from the dam interior (i.e., piping);

Slope failure, excessive scouring, or other apparent soil instability;

Longitudinal cracks, bulging, or shifts in alignment;

Excessive sloughing or seepage; or

Failure of the spillways and/or outlet devices to function properly (due to clogage, damage, or other deficiency).

The County Manager has the authority to order the immediate and complete draining of the lake in whatever manner deemed necessary at the time and to require the owner to keep the pool down until remedial work, as is deemed most appropriate to create a safe dam condition, is completed and approved by the Stormwater Management Division.

All lakes shall have a permanent lake drain.

No public roadways shall be constructed over any permanent water impoundment structure. Private roadways and driveways over any permanent impoundment structure (including full indemnification to the County) shall be reviewed on a case-by-case basis by the County Manager (access for public safety vehicles must be addressed in said indemnification).

No utilities are permitted to pass through any dam, either longitudinally or transversely, unless approved by Cobb County Stormwater Management Division.

**418.01.02 Specific Criteria**

**(Dams with vertical heights less than or equal to 6 feet.)**

Earthen Dams:

Any earthfill dam equal to or less than 6 feet in height is an exempt structure according to Georgia Safe Dams Act. The following minimum design criteria shall apply:

Design shall be by a professional engineer registered and licensed to practice engineering in the State of Georgia;

Plans shall be submitted to Cobb County Stormwater Management Division for review and comment;

Construction shall be performed by a qualified contractor who has sufficient skills and experience to perform this work;

Design storm shall be at least SCS 24-hour 100-year event or equivalent approved by the Stormwater Management Division;

A minimum freeboard of two feet is required from the design flood pool to the top of the dam;

All soil shall be CL or ML material, compacted to 95% standard proctor; and

Side slopes shall be no steeper than 3:1 unless approved by Cobb County Stormwater Management Division. Under no circumstance shall the slope exceed 2:1.

Reinforced concrete or masonry dam:

Design and construction supervision must be performed by civil engineer licensed to practice in the State of Georgia. Construction verification checklist to be submitted to Stormwater Management Division;

Design shall address and account for overturning, sliding uplift, and seepage with adequate safety factor (2.0 for over-turning, 1.5 for sliding) and adequate freeboard (0.5 feet above 100 year pool). Steel design shall conform to American Concrete Institute Code. Uplift loads can be reduced by 70%, if an underdraining system is provided. Construction verification checklist must be provided by design engineer or approved alternate.

Design storm shall be at least SCS 24-hour 100-year event or equivalent approved Stormwater Management Division.

**(Dams with vertical heights between 6 and 25 feet with less than 100 acre-feet of storage)**

Earthen Dam:

Design, construction supervision, and certification of completion according to plans and specifications to be by civil engineer and a geotechnical engineer both licensed to practice in the State of Georgia.

Design shall conform to the requirements of a Category I Spillway Standards Dam as classified by the Georgia Safe Dams Office and as published in "Georgia Safe Dams Act and Rules for Dam Safety", Act No. 796, as amended to date.

Design storm shall be at least 25% of the Probable Maximum Precipitation (6 hour) storm event.

Principal spillway shall be adequate to handle at least the 50-year flood.

Emergency spillway(s) as a minimum shall be adequate to handle flows in excess of the 50-year flood, up to the  $\frac{1}{4}$  PMP.

Front and back slopes shall not be steeper than 3:1 unless design includes a slope stability analysis, which confirms and documents that a steeper slope will be stable. In no condition, however, will a slope steeper than 2:1 be permitted.

All organics and topsoil shall be removed from the entire footprint of the dam and the foundation certified by a geotechnical engineer (PE).

Earthen fill shall be CL or ML material approved for use by geotechnical engineer (PE), placed, and compacted to not less than 95% standard proctor under said engineer's direction.

Compaction records accompanied by a geotechnical engineer's certification that soil compaction meets this specification should be forwarded to the Cobb County Stormwater Management Division.

The low-level outlet (lake drain) shall be concrete pressure pipe or ductile iron pressure pipe, cradled in concrete. Bedding shall be in concrete poured the full width of the exposed trench and as a minimum, up to the spring line of the pipe. Pipe and joints shall be rated for internal pressures exceeding that of the design storm and shall meet or exceed ASTM 361 or AWWA C-301. Corrugated metal pipe is not allowed.

A lake drain may also be comprised of a valve-operated siphon system designed by a registered civil engineer licensed in the State of Georgia. Piping for a siphon system shall be schedule 80 PVC in conformance with current state standards or ductile iron with mechanical joints or PV joints with adequate strength and anchoring to sustain the water forces incumbent with operation.

Freeboard of a dam, above the design storm maximum pool, shall be 3.0 feet in lieu of fetch calculations of wave height justifying a lesser freeboard. Cobb County reserves the right to require additional freeboard above the nominal 3-foot requirement, if supported by fetch calculations.

Crest width shall be not less than 12.0 feet.

#### Reinforced Concrete or Masonry Dam:

Design, construction supervision, and certification of completion according to plans and specifications to be by design civil engineer and a geotechnical engineer both licensed to practice in the State of Georgia.

Design shall address and account for overturning, uplift, and seepage with adequate safety factor and adequate freeboard.

All slab on grade concrete, including concrete footings, shall be designed and constructed to control seepage and piping of foundation soil along the underside of the slab in incorporating cutoff walls or other appropriate measures.

Design storm shall be as specified by the Cobb County Stormwater Division. Generally, at least 25% of the Probable Maximum Precipitation 6-hour storm event ( $\frac{1}{4}$  PMP) is required.

Principal spillway shall be adequate to handle at least the 50-year flood unless the emergency spillway is appropriately armored against scouring.

Emergency spillway shall be adequate to handle flows in excess of the 50-year flood, up to the 6-hour PMP.

Freeboard of a dam, above the design storm maximum pool, shall be 3.0 feet in lieu of fetch calculations of wave height justifying a lesser freeboard. Additional freeboard above the nominal 3 feet required, if supported by fetch calculations.

Design shall conform to the requirements of a Category I Spillway Standards Dam as classified by the Georgia Safe Dams Office and as published in "Georgia Safe Dams Act and Rules for Dam Safety", Act No. 796, as amended to date.

All organics and topsoil shall be removed from the entire footprint of the dam and the foundation certified by a geotechnical engineer (PE).

Earthen fill (if any) shall be subject to the criteria specified above for earthen embankments.

Required 28 day compressive strength for concrete is 3000 psi.

#### **418.02            TEMPORARY POOL IMPOUNDMENTS**

Normally dry stormwater storage basins - impound stormwater temporarily, i.e., dry detention ponds.

##### **418.02.01        General Criteria**

Design to be by registered civil engineer licensed to practice in the State of Georgia.

Detention pond dams equal to or greater than 15 feet in height or greater than 50 acre feet of storage must conform to the corresponding design criteria for permanent impoundments, as referenced above.

(The following criteria apply to dry detention pond dams less than 15 feet high and less than 50 acre feet).

Design storm shall be at least the 100-year storm.

Multi-frequency outflow control shall be provided for the 2-year, 5-year, 10-year, 25-year, 50-year, and 100-year frequency storms per the current Cobb County Stormwater Management Ordinance.

Principal spillway shall be adequate to handle at least the 25-year flood.

Emergency spillway(s) shall be provided to handle flows in excess of the 25-year flood, up to the 100-year flood.

No orifice shall be less than 3 inches in diameter unless it is installed to meet a State or local requirement.

Install fencing around all ponds deeper than 6 feet as measured vertically from the crest of the dam down to the invert of the lowest control structure. Gates are to be at least 12 feet wide to permit access for maintenance equipment. Cobb County is not responsible for the replacing of any non-permitted structures or plantings destroyed, removed, or otherwise damaged during maintenance operations. Fencing shall not be installed across spillways or drainage ways.

A 12 foot combined drainage and permanent access easement shall be established around the pond at the 100 year pool level or at the elevation of top of dam, whichever is greater to provide access and permanently prevent usage or modification of this flood storage area. A 12 foot combined easement shall also be provided along the toe of the dam. A 20-foot access easement from the public right of way shall be provided.

## **418.02.02 Specific Criteria**

### Earthen Dam:

Front slope shall not be steeper than 2.5:1 unless design includes a slope stability analysis, which confirms and documents that a steeper slope will be stable. In no condition, however, can any slope be steeper than 2:1.

All organics and topsoil shall be removed from the entire footprint of the dam and the foundation inspected and approved by the geotechnical licensed, qualified engineer prior to fill placement.

Earthen fill shall be CL or ML material approved for use by a geotechnical engineer (PE) and placed and compacted to not less than 95% Standard Proctor under said engineer's direction.

Freeboard of a dam, above the 100-year design storm maximum pool, shall be 2.0 feet in lieu of fetch calculations of wave height justifying a lesser freeboard. Cobb County reserves the right to require additional freeboard above the nominal two feet requirement, if supported by fetch calculations.

Crest width shall be not less than 12.0 feet, unless approved by the Stormwater Division.

### Reinforced Concrete or Masonry Dams:

Design shall address and account for overturning, uplift, and seepage with adequate safety factor (2.0 for overturning, 1.5 for sliding) and adequate freeboard (0.5 feet above 100 year). Steel design shall conform to American Concrete Institute Code. Uplift loads can be reduced by 70%, if an underdraining system is provided. Construction verification checklist must be provided by design engineer or approved alternate.

All slab on grade concrete, including concrete footings, shall be designed and constructed to incorporate appropriate cutoff walls.

In no condition can any fill slope (if any) be steeper than 2:1.

All organics and topsoil shall be removed from the entire footprint of the dam and the foundation inspected and approved by the Cobb County Stormwater Division prior to gravity dam concrete or masonry placement.

Earthen fill (if required) shall be approved for use by a geotechnical engineer (PE) and placed and compacted to not less than 95% Standard Proctor under said engineer's direction.

Freeboard of a dam, above the 100-year design storm maximum pool, shall be 2.0 feet along any earthfill sections of the dam, in lieu of fetch calculations of wave height justifying a lesser freeboard. Cobb County reserves the right to require additional freeboard above the nominal two feet requirement, if supported by fetch calculations. Freeboard for the concrete section of the dam shall be a minimum of 0.5 feet.

Required 28 day compressive strength for concrete is 3000 psi.

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## **419 HISTORIC PROPERTIES**

These general design guidelines shall serve as preliminary design standards for the designated "Historic Districts" in Cobb County, Georgia. They provide a set of criteria to be applied uniformly in the evaluation of appropriateness of proposed changes in these historic districts. The goal of the design guidelines is to protect the visual quality of local historic districts and landmarks, preserve historic values, and encourage compatible new construction. From time to time, more specific guidelines may be written to more closely relate to the characteristics of individual districts, but in all cases these general guidelines shall serve as the underlying policies for those more detailed documents.

### **419.01 SITE DESIGN**

The following guidelines apply to all renovations, rehabilitations, additions, and new construction work within designated "Historic Districts" in Cobb County, Georgia.

#### **419.01.01 Setbacks/Siting**

Maintain and respect the pattern and alignment of the buildings established by the traditional setback of other buildings on the street.

#### **419.01.02 Orientation**

Buildings should repeat the orientation of other buildings on the street when possible. Similar orientation characteristics are:

- The direction of roof lines
- The height and form of adjacent roofs
- The positioning of features such as porches or garages
- The manner in which one enters the building

#### **419.01.03 Form/Massing/Height**

Buildings should conform to existing precedent in terms of their general form, massing, and height. Roof shapes are particularly important and should be repeated for new buildings when possible.

#### **419.01.04 Landscaping/Plant Beds**

Consider historic precedents in all landscaping plans or simple plant beds. This consideration applies in several levels:

- Remnants of earlier landscaping practices and tastes (i.e., planting unusual specimen)
- Recreating gardening practices
- Consideration of plant varieties and practices that represent a continuity with the past

#### **419.01.05 Fences**

Maintain traditional fence lines where they once existed and preserve historic fences in their original locations.

#### **419.01.06 Paving**

Where historic paving material exists in the designated district, consider using similar materials for new paving; preserve historic paving materials in their original location.

#### **419.01.07      Parking Lots**

Properly screen or otherwise visually reduce the impact of parking lots and multiple parking spaces:

- Side or rear locations preferred
- Means of screening include, but are not limited to:
- Islands of hedges, shrubs, or trees;
- Fences of wood, pickets, or vertical planks.

#### **419.01.08      Signs**

Signs should be small, unobtrusive, and subordinate to the architecture and overall character throughout the district.

- Generally, more prominent signs should be placed in front yards or on walkways near the building entrance so as not to impinge upon the buildings themselves.
- Movable and/or portable signs are strictly prohibited from any designated district.
- Locate flush signs so they do not extend beyond the outer edges of the building always avoiding obscuring ornament and detail.
- Where several businesses share a building, coordinate the several signs to align or group into a single panel or row and use similar forms and backgrounds for the signs to visually give uniform effect.
- Sign materials should be compatible with building materials.

### **419.02              REHABILITATION OF CONTRIBUTING STRUCTURES**

The following guidelines apply to the rehabilitation of contributing structures in Historic Districts.

#### **419.02.01      General Preservation Policy**

The preservation of characteristic-defining elements of historic buildings is a top priority. Alterations and repairs should accurately represent the historic qualities of the buildings. Original documentation should be used for restoration work whenever possible. Where original documentation is not available, interpretations of similar elements that occurred in the area may be considered.

#### **419.02.02      Establishing the Proper Approach**

The primary objectives of a rehabilitation plan should be:

- Retention of distinguishing features: The preservation of significant or character defining architectural materials and features of the building; and
- Avoidance of imitative historic features for which there is no historic basis.

#### **419.02.03      Determining the Contents of an Appropriate Rehabilitation Plan**

An appropriate plan should contain the following strategies:

- Protection and maintenance of historic features that survive in generally good condition.
- Repair historic materials and features that are deteriorated.

Replacement of historic materials and features with new materials where deterioration is so advanced that repair is impossible.



A plan **may** also include strategies for:

- Alterations to the exterior of the historic building.
- Additions of new rooms or spaces to the exterior/interior of the historic building.

#### **419.02.04 Design Character**

Respect the original design character of the building. Analyze the building to determine which elements are essential to its character. Please do not attempt to make the building appear older (or younger) in style than it really is. The genuine heritage of the District should be expressed.

#### **419.02.05 Change in Use**

New uses that require the least change to existing structures are encouraged. Every reasonable effort should be made to provide a compatible use for the building that will require minimal alteration to the building and its site.

#### **419.02.06 Repairing Original Features**

Avoid removing or altering any historic material or crafted elements that have significant architectural features. Avoid character altering repair or maintenance measures. Examples of historically significant architectural features are porches, window trim, chimneys, overall building form, roof, building shape, or material finish. Instead of replacing make an attempt to patch, repair, piece in, splice, consolidate, or otherwise upgrade the existing material using recognized preservation methods whenever possible.

#### **419.02.07 Protect and Maintain Existing Significant Stylistic Elements**

Protection includes the maintenance, historical material through treatments such as rust removal, caulking, repainting, cleaning, resetting and puttying nail holes. Use approved procedures for cleaning, refinishing, and repairing historical materials.

#### **419.02.08 Replacement**

When replacement is absolutely necessary, match the original material when feasible. A substitute material is acceptable if the form, design, color, or texture of the substitute conveys the appearance of the original and substantiated by physical or pictorial evidence. When reconstruction of an element is impossible due to the lack of historical evidence, then use a design that relates to the building in size, scale, and material.

#### **419.02.09 Alterations**

Preserve older alterations that have achieved historic significance in itself and are character defining. The alteration to the building must be assessed in terms of its contribution to the overall character and appearance of the building.

More recent alterations that are not historically significant may be removed.

#### **419.02.10 Cleaning Methods**

Harsh cleaning methods for wood and masonry are discouraged. Avoid sandblasting, steam cleaning, detergents, chemicals, and organic solvents. Be aware of minimizing irreversible damage to historic buildings.

#### **419.02.11 Roofing Repairs**

Roofs are one of the most frequently replaced and repaired building components. Generally, it is recommended that roofs be replaced "in-kind" or that an appropriate roofing material be selected. Metal roofs are subject to rusting and deterioration.

#### **419.02.12 Understanding and Preserving Historic Resources**

The following six questions are intended to aid owners and developers in better understanding their buildings and the areas surrounding them in order to encourage informed and more conscientious decisions regarding treatment, renovation, additions, and rehabilitation:

1. How is the existing building used?
2. How old is the building?
3. Is the building contributing, non-historic, or intrusive?
4. What is the building type and style?
5. Does the building have distinguishing characteristics or features as in?

Orientation	Plan or blueprint
Roof form and shape	Dormer and other roof features
Porches and store fronts	Foundations
Bay divisions	Number of stories
Chimney	Materials and secondary features
Landscape/site features	Window and door shapes and locations
Outbuildings	Fences
6. Can I identify any threats to historic integrity?

Inappropriate additions	Artificial siding
Sandblasting/poor painting	Inappropriate stucco
Inappropriate windows	Inappropriate entrance doors
Alterations to store fronts	Storm windows and doors
Inappropriate porch treatments	Inappropriate foundation treatments
Inappropriate shutters	Inappropriate steps
Inappropriate landscape	Metal awnings
Poor maintenance practices	

#### **419.03 ADDITIONS TO CONTRIBUTING STRUCTURES**

The following guidelines apply to additions to contributing structures in the "Historic Districts".

##### **419.03.01 Compatible Relationship to Main Building**

Additions to existing buildings should be compatible with the size, scale, color, and character of the main building and its environment and should almost always be placed in the rear or side away from public view of the main building. Try not to copy other parts of your historic structure, but do consider existing features such as form, roof pitch, and door and window arrangement. Efforts should be made to visually tie and align the addition to the existing building.

##### **419.03.02 Design**

Additions should compliment the historic period of the district. Alterations that seek to imply an earlier period of inaccurate variation on the historic style than that of the building are inappropriate.

##### **419.03.03 Materials**

Use materials that are compatible with the original building.

**419.03.04 Reversibility**

New additions and alterations should be made so that the original fabric of the structure is unaltered. Original exterior walls should be retained when possible and new framing systems should not interrupt original surfaces. Upon cleaning, ensure that no irreparable damage is done to historic buildings.

**419.03.05 Preserving Features**

Preserve all existing historic features of a building.

**419.03.06 Roofing Shape**

The roof shape of the original building can often provide a point of departure for new additions. Generally, low-pitched roof additions would not be preferred for buildings with a conspicuously pitched roof or roofs.

**NOTE:** In the event that these guidelines fail in any respect to address a landowner's or developer's inquiry, the ultimate decision-making guideline is whether the consequences of the decision will serve to preserve and to protect the historic values of the district and the visual quality of the surrounding area.

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## 420 CEMETERIES

In the event a cemetery or burial site is located on the property, the developer is required to adhere to the following:

- Prepare a site plan identifying the full boundaries with a metes and bounds description.
- Provide a fifty (50) foot natural undisturbed natural buffer from the common property line; or a 50 foot undisturbed natural buffer around the perimeter of the outermost burials of the cemetery; whichever provides the greatest protection for the cemetery. The outermost burials to be determined by a professional archaeologist Cobb County Code 26-29 Section C. The archaeology survey will locate all grave shafts and define the burial boundary as well as the fence line. Member(s) of the Cemetery Preservation Commission (or approved staff member appointed by Community Development Director) must be present during archeology survey.
- Lots adjacent to fifty (50) foot undisturbed natural buffer shall have some or the entire required setback in addition to the buffer.
- The fifty (50) foot undisturbed natural buffer shall be recorded as a conservation easement with the Cobb County Cemetery Preservation Commission having third party right of enforcement.
- Provide uninhibited daylight access to the cemetery via a twenty (20) foot graveled easement to the cemetery from the nearest public road. The outer boundaries of this easement may be landscaped.
- A plat to be prepared by a registered surveyor denoting the location of all grave shafts, the fifty (50) undisturbed buffer, the fence line as determined by the archaeology survey and the access easement.
- The archeology survey and plat must be submitted to the Cobb County Cemetery Preservation Commission three (3) business days prior to any zoning hearing or plan review, as may apply.
- Provide **and install** an orange protective fence on the outer perimeter of the fifty (50) undisturbed natural buffer before beginning construction. **This fence shall be maintained throughout the life of the project. At completion of the project, the orange protective fence shall be removed from the premises.** A sign stating Cemetery Preservation Buffer– Do Not Disturb shall be erected at fifty (50) foot intervals along the outer perimeter of the buffer. At the completion of the project, these signs may be maintained or replaced by the Cobb County Cemetery Preservation Commission.
- Provide at least a permanent six (6) foot chain link fence with gate on the fence line determined by the archaeology survey or on the common property line between the cemetery and the development whichever provides the greater protection for the cemetery before beginning construction.
- Fence must be 9 gauge with top rail and fence post must be set in concrete. Fence may be upgraded to vinyl coated chain link and/or wrought iron.
- Comply with State and local laws and ordinances.
- All cemetery preservation requirements must be Site Plan specific.

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## **421 SWIMMING POOL REQUIREMENTS**

All Swimming Pools with a depth of more than 18 inches shall comply with the 1994 Standard Swimming Pool Code. *Section 315 of the Standard Swimming Pool Code provides:*

- All swimming pools shall be completely enclosed by a fence at least four feet in height or a screen enclosure.
- Openings in the fence shall not permit passage of a 4-inch diameter sphere. The fence or screen enclosure shall be equipped with self-closing and self-latching gates.
- This section is to notify you of the above fence requirements; it is your responsibility to see that a fence is installed prior to filling the pool. To meet these standards; shrubs; bushes; hedges; trees; etc., are not considered an effective barrier. A substantial fence or wall is REQUIRED.
  - After the fence is installed, you must call for a final inspection.

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## **422 UTILITIES**

### **GENERAL NOTE:**

Cobb County has adopted the Georgia Department of Transportation, Utility Accommodation Policy and Standards, Section 3- Rules for Issuing Permits (as may be amended from time to time). Please see Volume 2, Section 508, Materials Specifications and Standard Details.

For damage prevention purposes, all utility locations within a street right-of-way shall correspond to the utility location cross section in Standard Details 80, 80a, 80b, 81, 81a and 82.

On residential streets constructed without curb and gutter, the utility depths shall be increased by one foot to allow for the realignment of the ditches without damaging the utilities. The developer is encouraged to coordinate with the Cobb County Utility Coordinating Committee.

Southern Bell requests to be moved from 18" BOC (back of curb) to 7½' BOC and from 24" deep to 30" deep to accommodate the gas service crossings.

CATV requests to be moved from 5" BOC to 12" BOC and from 18" deep to 24" deep.

Power requests to be moved from 8' BOC to 9' BOC with power transformer being flush with back of the right-of-way.

Gas requests to remain at 36" BOC and 30" deep and will raise service laterals from 30" deep to 24" deep.

Water requests to remain at 5' BOC and 42" deep.

Utility companies may utilize a joint trench for utility installation. If a joint trench is used, its depth shall be that of the utility in the trench required to place its lines at the greatest depth. Joint trench placement may be specified or random placements.

All contractors, developers, utility companies, and the "general digging public" are encouraged to abide by the OCGA 9 (25). The UPC number is (404) 623-4344; (800) 282-7411.

All privately owned equipment or utilities, with the exception of residential mailboxes, shall be allowed on public right-of-way by special permit only. A special permit must be approved by the Directors of Cobb County Community Development, Department of Transportation and Water System.

Any utility installed on the County right-of-way under special permit shall be equipped with a tracing or locating mechanism. As an example, any non-conductive conduit shall be equipped with a minimum size 16 gauge corrosion-resistant tracer wire to aid in locating the utility. The wire shall extend along the tributary conduit to a point four feet off of the right-of-way.

Water and sewer service lateral locations are to be permanently marked on the curb under which they cross.

Any contractor operating within the County shall sign a statement to acknowledge receipt of this new regulation as a condition of obtaining a business license to operate within Cobb County. Contractors shall provide a 24-hour contact telephone number to the Georgia UPC.

Responsibility for the location of any utility placed on the County right-of-way under special permit rests solely upon the owner of the utility. Any damage repair to non-permitted utilities shall be the responsibility of the owner of the utility.

The design and construction specifications for all-public water and sanitary sewer facilities shall conform to the specifications of the Cobb County Water System or applicable authority, i.e., water meters should back-up to the property line.

Storm drains and cul-de-sacs shall off-set the right-of-way to accommodate utilities. See Standard Details 80 and 81.

All streetlights shall be placed at the property line.

The standard color codes adopted by the American Public Works Association and the Georgia Utilities Coordinating Committee shall be utilized for any necessary marking of underground utility lines. The color scheme is as follows:

- Red                Electric
- Yellow           Gas/Oil
- Orange           Communications/Cable TV
- Blue              Water
- Green            Sewer
- White            Proposed Excavations
- Pink              Surveyors

All utility manholes and valve boxes shall be brought to the finished grade within the roadway section. Manhole covers and splice boxes placed within the sidewalk zone shall be constructed to be flush mounted with the finished sidewalk.

Utility poles and transformers shall be located as near as possible to the frontage line. Wherever practical, utility poles or transformers shall not be located on the same lot corner as water service.

## **423 CONDOMINIUMS**

### **423.01 PROJECT DESIGN**

Design of project shall conform to the requirements of the Cobb County zoning regulations and to the standard design specifications.

### **423.02 MONUMENTS**

Permanent bench markers shall be placed at all land lot corners on the boundary of the property being developed. These markers are to be concrete with brass markings. Placement (to be verified by visual inspections) to extend no less than 6 inches above the finished grade.

NOTE: Set as witness to existing pins.

All other corners shall be marked with an iron pin, 1/2-inch diameter, 24 inches long, and driven to extend no less than one inch above the finished grade.

### **423.03 EASEMENTS**

Easements shall be cleaned and opened at the time of development to control surface water run-offs. Run-off slope and side slopes are to be specified by the developer's engineer, according to good engineering practice.

Permanent sanitary sewer easements of 20 feet in width shall be provided for necessary lines.

Buildings shall not be located closer than 10 feet from the edge of any permanent sanitary sewer easement without approval from the Cobb County Water System.

Easements for sanitary sewers and drainage purposes shall not overlap unless approved by the Cobb County Water System.

Drainage easements shall be provided where the project is traversed by a watercourse, drainage way, natural stream, or channel. Easements shall conform substantially to the limits of such watercourse plus any additional width as is necessary to accommodate future construction as recommended by the Stormwater Division.

Drainage easements within the project and off the dedicated street right-of-way shall be clearly defined on the final plat of the project. The owner of this property shall be required to keep the easement open and free of undue obstructions at all times.

All easements shall be cleared of debris, excess dirt, and other materials. The ground shall be smoothed down and grassed within 10 days of completing construction work. The use of sediment control measures may be required to protect the area until a vegetative cover is obtained.

### **423.04 STREET NAMES**

All street names are subject to the approval of the Community Development Agency and shall be done in accordance with Section 401.19.

**423.05            PROPERTY ADDRESS**

Property address numbers shall be provided by the Community Development Agency.

**423.06            SIDEWALKS**

Sidewalks of an approved design shall be required per the Sidewalk Ordinance – Chapter 106 of the Cobb County Code.

**423.07            SUITABILITY OF LAND**

Such land deemed unsuitable for residential purposes may be set aside for such uses that shall not be harmed by the existing condition of the land. (See Cobb County floodplain regulations)

**423.08            UTILITIES**

The design and construction specifications for all public utilities shall conform to the standard design specifications for Cobb County.

**423.09            VARIANCES**

Where the sub-divider can show that a provision of the regulations would cause unnecessary hardship if strictly adhered to and/or where, because of topographical or other conditions peculiar to the site, and/or where, in the opinion of the Board of Zoning Appeals a departure may be made without adversely affecting applicable County regulation, the Board of Zoning appeals' decision for authorization shall be noted on the final plat before approval of the plat.

**423.10            ZONING OR OTHER REGULATIONS**

No final plat affected by an existing zoning ordinance shall be approved unless it conforms to such ordinance. Whenever there is a discrepancy between minimum standards of dimensions noted in these regulations and those contained in the zoning regulations, building code, or any other official regulation in Cobb County, the highest standard shall apply.

## **424 GATED COMMUNITIES**

Gated communities must be developed in accordance with the following minimum requirements:

All private roads must be designed and constructed according to Cobb County Development Standards 401 and 402.

Gates must be set back a minimum of 50 feet from public right-of-way. Minimum gate width must equal the required road width plus the width of any utility easements present, but in no case shall the width be less than 30 feet (including 14 feet of clearance width), provided, however, that the required gate width may be accomplished through the combination of adjacent entrance and exit gates of equal width.

Gate width and placement must be reviewed by, and are subject to approval by, both the Public Safety Agency (including Fire Marshall's Office) and Department of Transportation.

All gates must be "manned" 24 hours a day, seven days a week.

Arrangements for access through the gate for emergency service vehicles must be reviewed by, and are subject to approval by Cobb County Public Safety (including Fire Marshall's Office). Emergency service vehicles include, but are not limited to, fire suppression equipment, medical emergency vehicles, and law enforcement vehicles. Necessary arrangements may include Knox-fire boxes for keyed/keyless entry, keypad code entry, occupant telephone authorized entry, and/or automatic gate opening upon power disconnect.

Arrangements for access through the gate for non-emergency service vehicles must be reviewed by, and are subject to approval by, the Cobb County Water System and the Cobb County Community Development Agency. Non-emergency public service vehicles include, but are not limited to, mail delivery, garbage pickup, public utility meter reading, and public utility maintenance. Necessary arrangements may include, but are not limited to: access easements for refuse collection vehicles and appropriate utility easements for public utility development and maintenance.

Gates may not restrict access to any public right-of-way or publicly owned property within the proposed development.

The County must be properly indemnified against any liability resulting from the proposed development including damage from or broken utilities, fines associated with damaged or broken utilities. This indemnification shall be evidenced by:

- 1) The Release and Indemnity Agreement placed on the plat.
- 2) A separate release and indemnity agreement executed by the developer.
- 3) A clause in each deed of conveyance by the developer for each lot in the subdivision acknowledging the release and indemnity agreement.
- 4) Assumption of liability of the release and indemnity agreement by the Homeowners' Association.
- 5) Assumption of liability of the release and indemnity agreement in the Protective Covenants, which shall become part of the covenants of the subdivision. The developer's liability shall end three years after the last lot has been sold by the developer, provided that there are then no pending or threatened claims against the developer, the County or

the Homeowners' Association. All language for liability agreements and covenants shall read as required by the Cobb County Attorney's Office.

The developer shall grant such easements to the appropriate governing authority or Utility Company as is necessary for public purposes regarding said community.

In the event that the developer does not obtain any approval required hereunder, same shall not alleviate the requirement of obtaining such approval.

Via a written Memorandum of Agreement in a form satisfactory to the County Attorney, and compliance by the developer with the requirements of O.C.G.A. 40-6-3 (a) (6) as it may be amended from time to time, the developer, for itself and its successors in title, shall grant Cobb County the authority to enforce all local ordinances and state laws, including the state Uniform Rules of the Road and necessary and required easements, within the gated community.

The following standards shall be used by Cobb County when considering any request for gated communities:

The number of units in the development shall not be excessive as identified on the Future Land Use Map of the Cobb County Comprehensive Plan.

The developer must demonstrate adequate provision for perpetual maintenance of the private road and any other infrastructure associated with the development, including but not limited to a note on the plat and a clause in each deed of conveyance by the developer for each lot in the subdivision acknowledging the perpetual maintenance of the private road (and other private infrastructure) by the Homeowners' Association.

The developer must demonstrate an adequate strategy for necessary emergency access.

The private road and gate must not unreasonably impede the logical future development of public roads in the vicinity of the project.

The private road and gate must not unreasonably restrict public access to sites of cultural, historical, or natural significance.

The private road and gate must not unreasonably restrict previously established pedestrian access.

The establishment of gated communities must not have unreasonable negative effects on the health and welfare of the community or the good order of the County.

## **425 TRADITIONAL NEIGHBORHOOD DEVELOPMENT DESIGN GUIDELINES**

Neither the Administrative Review Criteria nor any other portion of these Guidelines are intended to authorize, regulate or prescribe land uses or to supercede development regulations. These criteria provide a tool to Cobb County personnel for reviewing Traditional Neighborhood Developments that fall within the definition and intent of these Guidelines. If the intent of the project is to request that the roadways within the development be accepted by Cobb County, coordination between the developer, and Cobb County is strongly encouraged during the review and approval process.

### **CONCEPTUAL MASTER PLAN REQUIRED:**

Prior to submitting for plan review or any type of permits, all TND's will require a conceptual plan approval including but not limited to: common parking areas to accommodate neighborhood parties (eliminating potential for blocking emergency vehicle access along residential streets), management plan demonstrating how construction will be phased (so to avoid potential for conflicting construction and emergency vehicle traffic and parking – said management plan may include temporary waiver of curbing to allow vehicular passage), how service and utility vehicles (including delivery trucks, sanitation trucks, etc.) will maneuver through the development (including potential centralized "drop off points"), how interconnection will be established between the mixture of uses (with an emphasis on the "core" use, how private alley ways will be maintained by the community association, etc.

### **TND DEFINED:**

A Traditional Neighborhood Development (TND) is a human scale, walkable community with moderate to high residential densities and a mixed-use core. Compared with conventional suburban developments, TNDs have a higher potential to increase modal split by encouraging and accommodating alternate transportation modes. TNDs also have a higher potential for capturing internal trips, thus reducing vehicle miles traveled.

A dense network of narrow streets with reduced curb radii is fundamental to TND design. This network serves to both slow and disperse vehicular traffic and provide a pedestrian friendly atmosphere. Such alternate guidelines are encouraged by Cobb County when the overall design ensures that non-vehicular travel is to be afforded every practical accommodation that does not adversely affect safety considerations. The overall function, comfort and safety of a multi-purpose or "shared" street are more important than its vehicular efficiency alone.

TNDs have a high proportion of interconnected streets, sidewalks and paths. Streets and rights-of way are shared between vehicles (moving and parked), bicycles and pedestrians. The dense network of TND streets functions in an interdependent manner, providing continuous routes that enhance non-vehicular travel. Most TND streets are designed to minimize through traffic by the design of the street and the location of land uses. Streets are designed to only be as wide as needed to accommodate the usual vehicular mix for that street while providing adequate access for moving vans, garbage trucks, fire engines and school buses.

### **INTENT:**

That the development encourage walking and biking, enhance transit service opportunities, and improve traffic safety through promoting low speed, cautious driving while fully accommodating the needs of pedestrians and bicyclists.

That such development should have the potential to reduce the number of external vehicle trips, and thus vehicle miles traveled, by 15% or more through provision of commercial, recreational and other resident-oriented destinations within a walkable community. That traffic impacts, both on-site and off-site, should be minimized.

## DESIGN GUIDELINES

### Design Speed

Design speed should closely match the street type, vehicle use and the proposed speed limit. The majority of street types are "streets" and "lanes," which provide direct access to housing and which have a desired upper limit of actual vehicle speeds of ***approximately 20 mph. Via a written Memorandum of Agreement in a form satisfactory to the County Attorney, and compliance by the developer with the requirements of O.C.G.A. 40-6-3 (a) (6) as it may be amended from time to time, the developer, for itself and its successors in title, shall grant Cobb County the authority to enforce all local ordinances and state laws, including the state Uniform Rules of the Road, within the TND.***

### Street types and widths

Dimensions provided in the graphic examples are from curb face to curb face. The specific dimension of each street element is as follows (Please refer to Standard Detail 150):

<i>Street Type</i>	<i>Lane</i>	<i>Parking</i>	<i>Bicycle*</i>	<i>Gutter</i>	<i>Median Gutter</i>
Lane	8'	8'	na	1'	na
Street	9'	6'	na	2'	na
Avenue	11'	6'	6'	2'	1'
Main Street	11'	6'	6'	2'	1' / na
Boulevard	11'	6'	6'	2'	1'
Parkway	12'	na	na	2' / na	1' / na

\* bicycle lanes are optional if alternate routes to the same destination are provided.

Designers must recognize the implications of shared street space and an interconnected street network. The most frequently and numerous users of TND street networks are motorists, bicyclists and pedestrians. Use by oversized vehicles, such as delivery trucks, moving vans, school buses and fire trucks, is generally infrequent, particularly on residential streets and lanes. A street should be not wider than the minimum width needed to accommodate the usual vehicular mix desired for that street. On a properly designed TND street the occasional oversized vehicle may cross the centerline of a street when making a right turn.

A properly designed street network should provide at least two routes of access to any property within the TND. A high level of accessibility is offered to emergency vehicles by an interconnected TND network. The framework of main streets and avenues should provide appropriate service area routing for school buses and transit vehicles. Designers will coordinate with and involve all appropriate parties (including the Fire Marshall's Office) so to ensure that oversized and emergency vehicles are accommodated while facilitating the needs of the most frequent users.

### Stopping Sight Distances

Minimum stopping distances should conform to the design speed for the particular street and the stopping distances required for wet pavement conditions, as follows:

20 mph	25 feet
25 mph	150 feet
30 mph	200 feet

These sight distances should be provided by both vertical and horizontal alignment. Where grades vary from level conditions, stopping sight distances can be decreased for uphill grades and must be increase for downhill grades.



### **Vertical Curve Design**

K Values for vertical curve design should be consistent with design speed. Maximum centerline grades should also be consistent with design standards.

### **Centerline Radii**

The criteria for minimum centerline radius for design speeds of 25 mph and less (no superelevation) are:

- 20 mph 90 feet
- 25 mph 175 feet

### **Curb Radii**

For design speeds of 20 mph the criteria for curb radius is 15 feet. Some intersections on avenues, main streets and boulevards may require curb radius of up to 25 feet (if differentiated by different building material such as pavers). With larger curb radii sidewalks may be set back six to 10 feet from curbs and on-street parking may be restricted 30 feet back from the intersection on each street.

### **Intersection sight triangles**

The minimum sight triangle for stop conditions at street intersections shall be 70 feet along the major road right of way and 10 feet along the minor road right of way. The intersection sight triangle shall be permanent right of way. This may be reduced for lower design speeds on lanes and streets.

### **Curb Construction**

All curbed streets shall be built in accordance with Cobb County requirements for vertical curb and gutter construction. As noted under "Street types and widths" above, most gutters are anticipated to be 2 feet in width. Gutters for lanes and street medians are anticipated to be 1 foot.

### **Pavement Design**

When the developer proposes to construct private alleys, the facility should meet Cobb County Pavement Specifications. Where alleys are to be unpaved, a minimum paved apron of at least 50 feet from edge of pavement shall be required at the tie in with any paved facility. Lanes, Streets, Boulevards, and Parkways shall meet the pavement design criteria established elsewhere in these standards.

### **Sidewalks and Pedestrians**

Minimum width for a sidewalk is 5 feet. Sidewalks that directly abut curbing shall be a minimum of 6 feet. Sidewalks may need up to an additional 2 feet of width if they directly abut fences, walls and buildings. Within commercial areas and places with high pedestrian volumes, sidewalks should be sized and surfaced appropriately for anticipated pedestrian traffic volumes and to meet or exceed ADA guidelines.

### **Bicyclists**

On lower volume streets bicyclists should be considered a normal part of the vehicle mix on the street. On higher volume streets bicyclists should be accommodated with 6 feet wide bike lanes, but separate routes for less experienced bicyclists may be considered as well. Routing bicyclists within and through TNDs may include signage and striping, including changing the color of the entire bike lane, as appropriate.

### **Transit**

TND design should be inherently compatible with transit. Transit should be addressed wherever it is present and should be appropriately planned where it may not yet exist. Transit services are typically provided within core areas and along avenues, main streets and higher-capacity roads.

Due to size and interconnected street pattern, residents often do not need to walk more than ¼ mile to the nearest transit stop.

### **On-street Parking**

"Informal parking" refers to parking that is allowed along lanes and residential streets, but is not designated or marked as parking areas. On-street parking along major streets should be signed, marked or otherwise clearly designated (should also be wider than 28 feet). Any street less than 28' wide shall establish no parking signs. On – street parking should be complimented by development that is located closer to the street with garages and alleyways in the rear.

### **Planting Strips and Street Trees**

Planting strips, located between the curb and sidewalk parallel with the street, shall be 6 feet or more in width. Care should be used to ensure that larger planting strips do not push pedestrian crossing areas back from intersections by requiring a larger curb radius. On streets with design speeds of 20 mph or less, or on streets with on-street parking, small street trees may be planted within 3 feet of the back of curb and should generally be planted along the centerline of the planting strip. Within commercial areas and other sidewalks with high pedestrian volumes, grated tree wells may be used in lieu of planting strips. To maintain sight lines, trees and other objects should be restricted from corner for distances of 30 feet on all sides. Along all planting strips the area between 2 feet and 7 feet above ground shall be maintained as a clear zone to preserve sight lines and accommodate pedestrians.

### **Utilities**

All utility installations within rights-of-way shall be consistent with Cobb County's current Utility Policy. For residential subdivision streets, herein defined as "lanes", and "street," and residential collector streets, herein defined as "avenues" and "main streets," underground utilities may cross under or run longitudinally under the pavement, provided future utility stub-outs are installed prior to paving. For all other *streets and highways*, *underground utilities may cross* under but may not run longitudinally under the pavement, except in unusual situations approved by the Directors of Cobb County DOT, Cobb County Water System and Cobb County Community Development.

*For installations outside of rights-of-way, utilities (either above or underground) may be located in alleyways. If utilities are not to be placed in alleyways the developer **should consider** providing a 5 foot (minimum) utility easement behind the sidewalk.*

### **Lighting**

As a general rule, more and shorter lights are preferred to fewer, taller, high-intensity lights. The scale of lighting fixtures and the illumination provided must be appropriate for both pedestrian and vehicular movements.

### **Resolution of Conflicts**

Whenever the reviewer, after due consideration of all relevant factors, determines that an irreconcilable conflict exists among vehicular and non-vehicular users of a TND street space, that conflict should be resolved in favor of the non-vehicular users, unless the public safety will truly be jeopardized by the decision.

## **ADMINISTRATIVE REVIEW CRITERIA**

### **Criteria Purpose**

The criteria help outline a “classic” TND. The purpose of these criteria is to provide a guide to Cobb County when determining whether a proposed development may thus be designed according to TND guidelines rather than conventional subdivision street standards. Failing to meet all of the criteria does not imply that a proposed development is not a TND. However, proposals not fitting the “classic” criteria may require additional review.

## **TND Review Criteria**

### **Size**

A TND should be designed at a walkable scale— considered to be approximately a 5 to 10 minute walk from core to edge, or a ¼ to 1/3 mile maximum distance. All or most residential development must fall within this range.

### **Composition**

There is a discernable community center or core area. The proposed development must have a mixture of residential and non-residential land uses. Most non-residential uses are located within the community core area. Within the core area, a minimum of 15% of floor area must be devoted to commercial uses oriented towards TND residents. Elementary schools are an important community element. Public structures, such as schools, churches and civic buildings, and public open spaces, such as squares, parks, playgrounds and greenways, shall be integrated into the neighborhood pattern.

### **Density and Intensity**

Residential densities, lot sizes and housing types may be varied. Higher densities, often involving multi-family or attached dwelling units, are generally proposed in, adjacent to or within close proximity to the core area. Lower densities, usually detached single family dwellings, are generally located toward the edges.

Non-residential development intensities should be sufficient to encourage and promote pedestrian access. Development intensities of non-residential buildings should generally be such that buildings emphasize street frontages, sidewalks and paths, and transit stops. Regardless, the intensity of non-residential development should be compatible with and reflective of surrounding residential development patterns.

### **Street Patterns**

All or most streets within the proposed network must be part of a dense, interconnected pattern. TND streets should connect with adjacent street networks as much as possible. The degree of interconnectivity should be assessed by its ability to permit multiple routes, to diffuse traffic and to shorten walking. Most TND streets are designed to minimize through traffic. Streets are relatively narrow and often shaded by rows of trees. Alleys may be used to provide site access. Larger vehicular corridors are usually, although not exclusively, found within the core area and near the perimeter of the proposed development.

### **Block Length**

All or most low speed, low volume streets should have short block length of between 250 and 500 feet. Exceptions may be needed due to topography, environmental protection, preservation of cultural resources, and similar considerations.

### **Rights-of-Way**

Within a TND, the right-of-way is an important design element of the public space or “streetscape.” The right-of-way width should be the minimum needed to accommodate the street, median, planting strips, sidewalks, utilities, and maintenance considerations. The right-of-way width should be appropriate for adjacent land uses and building types. Planting strips between curb and sidewalk may be used to provide sufficient building types. Planting strips between curb and sidewalk may be used to provide sufficient space for street trees. Use of alleys and other alternate access or easements for utilities and maintenance vehicles should be taken into account when determining sizes of rights-of-way.

### **Relationship of Buildings to Street**

Buildings are oriented toward the street. Buildings within the core area are placed close to the street. All lots and sites must have pedestrian connections and the core area must be fully accessible to pedestrians. Parking lots and garages rarely face the street. Off-street parking may be located to the side or behind buildings but not in front of buildings or in such a manner as to interface with pedestrian access.

### **Sidewalks**

To comply with the Americans with Disabilities Act, sidewalks are a minimum of 5 feet wide and should be wider in commercial or higher intensity areas, when directly abutting curbs without a planting strip or parked cars, or when adjacent to walls or other built elements which reduce usable width. *Sidewalks should be on both sides of the street.* Wherever possible, there should be a continuous pedestrian network adjacent to the streets. Curb cuts should be minimized to reduce conflicts with pedestrians.

### **Pedestrian Street Crossing**

Street crossings must not be longer than are actually necessary. The needs of pedestrians should be balanced with the needs of vehicular traffic. Mid-block crossings, bulb-outs, raised crosswalks and similar techniques are commonly used to accommodate pedestrians when appropriate for traffic conditions and site specific situations.

### **On-Street Parking**

Many streets have on-street parking. One-street parking is a common traffic calming element of a TND, in that it slows vehicular traffic while providing a buffer between street and sidewalk.

### **Curb Cuts**

Curb cuts should be minimized to reduce effects on-street parking, conflicts with pedestrians and cyclists, and interruptions of traffic flow.

### **Highways and Large Through Corridors**

The proposed development cannot be penetrated by arterial highways, major collector roads and other corridors with peak hourly traffic flows of 1,200 vehicles, or average daily traffic volumes of 15,000 or more vehicles. Such corridors can only be located at the edge of a TND.

## **Policies**

Cobb County will not accept alleys into the county system. However, these features are encouraged as appropriate and desirable elements of a walkable community. Construction and maintenance of alleys will be the responsibility of the property owners’ association or comparable individual, or group that has responsibility for other common assets.

Cobb County, consistent with current policies, will not install street trees or median plantings or construct sidewalks or bike paths, nor will the County maintain trees, plantings, sidewalks, bike

paths or similar features within the right-of-way. However, these landscape features are recognized for their traffic calming, aesthetic and environmental benefits. Installation and construction of such features is the responsibility of the developer. Maintenance of such right-of-way features will be the responsibility of the property owners' association or comparable individual, or group that has responsibility for other common assets. Vertical curb and gutter construction is preferred throughout the entire development. Vertical curb and gutter construction is required within the community core, in all areas where densities are 6 units per acre or greater, and where sidewalks on both sides of the street are proposed. Alternative construction will be considered in low density areas, where sidewalks on one side of the street are proposed, or within water supply watersheds and similar environmentally sensitive areas, or preserved open space and natural areas.

### **Application Requirements for TNDs**

The use, approximate size, and location of all buildings and structures.

- All proposed land uses and the densities of dwelling units.
- Proposed on- and off- street parking and circulation plan showing the location and arrangement of parking zones or parking spaces, along with all driveways connecting with adjacent streets and highways.
- The proposed location, use, improvements, ownership and manner of maintenance of common open space areas.
- In the case of proposals which call for phased development, a schedule showing the time period proposed, the type and square feet of non-residential land uses, and the number of and density of dwellings units for each phase.

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## 426 COBB COUNTY ARCHITECTURAL DESIGN GUIDELINES FOR COMMERCIAL DEVELOPMENT, REDEVELOPMENT OR BUILDING RENOVATIONS

### Goals & Objectives

The goal of the Cobb County Architectural Design Guidelines is to provide a method to create better designs for commercial/retail/office/institutional buildings within the County. The ultimate design of a building, is in many ways an artistic expression and cannot be quantified or easily regulated. However, some basic design features of a building's footprint and exterior are essential and will go a long way towards discouraging a featureless redundancy of architecture and improving, the visual interest in a building's appearance from the street. As studies indicate, retail/commercial areas that have a higher aesthetic appeal to customers realize an increase in pedestrian activity. Buildings with a higher standard of architecture have increased resale value and realize more stable property values, whereby resulting in a more stable tax base.

The objective of these guidelines is to articulate clear community design principals that assist architects/engineers in understanding the County's minimum design criteria. These standards do not dictate or limit design or style of a building, as architectural diversity is encouraged, but will encourage more thoughtful and aesthetically pleasing solutions to a building's design. The regulatory concept is to calculate design points for six different aspects of a building's design. The required point system of these standards allow flexibility in achieving the minimum number of **total** points for a particular building, while there is no minimum for any of the individual six factors. The six design rules or factors are fashioned to give a developer/architect some flexibility in achieving the minimum number of total points for a particular building.

### Explanation of the Points

The numbering system provides a system that allows architects/engineers to be able to know, as they are designing the building, if the minimum scoring criteria is being met. Thus, upon submission of the plans to the Planning Division for architectural review, the architect/engineer will have a good degree of comfortableness that their design meets all minimum standards. The system also ensures the rating system is measured on a quantifiable level, therefore ensuring an equitable and non-arbitrary review among all applications.

The rules are divided into six categories and designed to encourage interesting building facades. Points are given for changing the plane of a building facade, for providing contrast with shade (porches, balconies, canopies) providing interesting design features, roof lines or wall openings (windows, doors). Since most designs would not score enough points from an individual category, the objective for the building designer is to gain sufficient points in the combination of all six categories to achieve the minimum number for the particular classification use. The scoring system is designed to achieve: a simple minimum number of:

- 10** for buildings planned for \*Industrial use.
- 20** for buildings planned for \*\*Office/Institutional use.
- 25** for buildings planned for a \*\*\*Retail/Commercial use.

A simple minimum number of **10** for buildings planned for Industrial use. \*Industrial uses are defined by the Cobb County Zoning Ordinance as all permitted uses identified within the Light Industrial (LI) and Heavy Industrial (IU) zoning categories. A simple minimum number of **20** for buildings planned for Office/Industrial use. \*\*Office/Industrial are defined by the Cobb County Zoning Ordinance as all permitted uses identified within the Low-Rise Office (LRO), Office/Services (OS), Office Institutional (OI), Office Mid-Rise (OMR), and Office Hi-Rise (OHR).

A simple minimum number of **25** for buildings planned for a Retail/Commercial use.\*\*\*Retail/Commercial uses are defined by the Cobb County Zoning Ordinance as all permitted uses identified within the Limited Retail Commercial (LRC), Neighborhood Retail Commercial (NRC), Community Retail Commercial (CRC), Neighborhood Shopping (NS), Planned Shopping Center (PSC), General Commercial (GC), Tourist Services (TS), Regional Retail Commercial (RRC), Urban Village Commercial (UVC), and Planned Village Commercial.

**The six categories are:**

**A. EXTERIOR WALL LENGTH:**

This rule gives points for breaking long facades by a variation in the building surface, such as the projection/departure of walls.

**B. EXTERIOR SURFACE AREAS:**

This rule gives points for breaking walls in the vertical plane, such as providing roof lopes.

**C. SHADE COVERAGE AREAS:**

Points are awarded in this category for building facades that have projections or other features that provide building shadows, such as balconies, porches and canopies.

**D. EXTERIOR WALL INTERRUPTIONS:**

Doors, windows and other framed building openings that help to break up the "bleak" look of a long, blank wall. Points are given for the amount of openings in a building surface.

**E. ARCHITECTURAL DESIGN TREATMENTS:**

Points are given in this section for combinations of architectural design treatments, additional landscaping & trees.

**F. FAÇADE DETAIL TREATMENTS:**

Points are given in this section for combinations of 2 (two) or more detail features.

**Use of Guidelines**

The guidelines apply to new development or undeveloped parcels or redevelopment proposals involving demolition of existing structures. The guidelines will also apply when a permit is sought to remodel or make improvements that are equal to or greater than fifty percent (50%) of the total, current assessed value of the structure. If stipulations relating to the architecture of a building is placed on a development during a zoning case or stipulations have been placed on a piece of property prior to adoption of these standards, those stipulations will take precedent over these standards, if found to be in conflict. Otherwise, past and future zoning stipulations will be in concert with the adopted standards, with the strictest enforced.

These guidelines are only a portion of the overall development review conducted by the County. The laws, ordinances and development standards of the County are not negated by these review guidelines, but are in addition to the adopted laws and ordinances of the Cobb County Code. If any Guideline element is in conflict with, or is more stringent than any pertinent County Code, the more stringent requirement will be enforced.



### **Submission of Design Guideline Worksheet**

Review of the worksheet is conducted by the Planning Division staff and not an architectural review committee, thereby ensuring an efficient review process. The architectural review will be concurrent with the Plan Review process and conducted in an expedient manner. At the time the developer/architect/engineer submits engineering drawings to Plan Review, the applicant will submit the following items for architectural review:

- (1) Elevation drawings of all sides of the building
- (2) Footprint of building with all pertinent measurements needed for guideline calculation purposes (see worksheet)
- (3) List of building materials and associated color, size, style
- (4) A completed architectural review worksheet, as supplied by the County.

Routine review time shall be no more than ten (10) business days, which will provide ample time for staff to conduct the review and for the architect/engineer, if necessary, to make any necessary revisions. Once architectural approval is granted, the architect/engineer/developer will be contacted and notified of the approval and all review items submitted by the applicant will be forwarded to the Plan Review Section, including the approved Guideline Worksheet. *Please note, prior to the adopted date of these standards, all plans submitted to Site Plan Review for approval, as well as sites currently being permitted and constructed, will be considered exempt.*

### **Architectural Requirements**

Architectural design of the building's exterior shall comply with the following minimum standards:

1. Building facades shall be architectural treatments of glass and brick, stone, architectural block, stucco and/or wood (combining these finishes are allowed and encouraged).
2. Portable buildings shall be prohibited. Metal buildings are prohibited except for buildings that have an \*Industrial use. Only then, a maximum of fifty percent (50%) of the building's side(s) or rear, when visible from the street, can be metal and shall be used in combination with another exterior building material noted in #1 above. However, the front of all \*Industrial buildings must be completely made of a building material noted in #1 above. If an \*Industrial building will be adjacent to a residentially zoned property, any side(s) of the building visible from that residentially zoned property shall not be made of metal.
3. The preferred roofing materials for roofs are metal, tile, slate, stone or wood shake. If typical shingles are used such as asphalt, the appearance should be that of slate, tile, metal, or shake.
4. Facades of anchor stores located within multi-tenant buildings shall be varied in the depth of the footprint and in the height of each tenants roofline. Also, distinct architectural identity for the entry into separate businesses shall be provided in the facade.
5. Exterior building walls shall incorporate changes in building material, color or facade by using such elements as windows, doors, trellises, false windows, recessed panels, soldiered columns, or landscaping adjacent to, or growing on, the building. Such changes should be frequent and determined by the height, length and overall scale of the building.

6. All mechanical, HVAC and like systems shall be screened from all street, driveway, pedestrian level views and residential views. Roof lines shall be designed to screen such equipment located atop buildings, and an opaque wall or fence of masonry, stucco, split-faced block, wood, etc. shall provide adequate screening for ground based equipment.

#### **Site Plan Recommendations**

1. Where appropriate and feasible, buildings may be situated to the front of property setbacks with parking oriented toward the side and rear of structure(s).
2. Landscaping should be used to shield automobile parking lots from public vantage points, including streets and sidewalks.
3. Dumpsters should be located at the rear of a structure/site and should be enclosed with an opaque (solid) wall enclosure. The enclosure should be constructed of a masonry building material that is the same, or similar, to the primary structure and have gates made of metal.
4. Decorative lamppost, benches, bicycle racks, planters are all encouraged to improve the pedestrian sidewalk area and to encourage pedestrian activity.

#### **Appeal of Guidelines**

An applicant that does not meet the minimum design score and is appealing a scoring criteria element can do so with the Director of Community Development. An appeal of the Director's determination can be made at the monthly meeting of the Cobb County Board Commissioners. The BOC will only consider appeals of the staff's administrative decisions and scoring criteria. The BOC will not consider variances to these guidelines. An application for appeal can be filed with the Cobb County Board of Commissioners. Following the appeal review, the decision of the shall be final.

# COMMERCIAL BUILDING DESIGN FACTORS WORKSHEET

## A. Exterior Wall Length:

1. **L** = Length in feet of building perimeter visible from the street. (See Figure 1)  
\_\_\_\_\_ft.
2. **F** = Length of the longest horizontal straight section of the exterior façade visible from the street. (see Figure 2) \_\_\_\_\_ft

To determine if a horizontal straight section of building is two separate walls, the following will apply:

- a. There must be an intervening physical separation of space or wall which makes horizontal separation of at least three (3) feet (see Figure 2).
  - b. The intervening physical separation of the space and wall must make a vertical separation of at least one (1) foot (see Figure 3).
  - c. The total perimeter length of the intervening space or wall section must be at least five feet (i.e. section a. above must total five (5) feet) (see Figure 3).
  - d. Materials within the intervening section or the same plane section of the wall can be of the same building material or a different material to encourage contrast.
  - e. When a wall section does not meet requirements of a, b and c above, the plane shall be considered one wall section (see Figure 3)
3. **W** = ratio of  $\frac{L}{F} =$  \_\_\_\_\_
  4. **Fa** = (W x 2) \_\_\_\_\_

## B. EXTERIOR SURFACE AREAS:

**P** = Total surface area of all flat and/or projected, non-sloping, sides of the building visible from the street (i.e. the flat vertical exterior walls of the building) (see Figure 4)  
\_\_\_\_\_ sf.

**R** = Total surface area of all sloping surfaces of the building that is visible from the street (i.e. roof of building) (see Figure 4) \_\_\_\_\_ sf.

For the purpose of the calculation "**R**":

- a. Only sloping areas that range from 15 degrees to 75 degrees from the vertical point may be included in this calculation.
  - b. Circular, convex or concave wall surfaces must be offset at least one foot from the vertical wall surface and have an angle of at least 60 degrees to be included in the surface area calculation (see Figure 4).
  - c. **Q** = the total number of building sides visible from the street.
3. **E** = ratio of  $\frac{R}{P} =$  \_\_\_\_\_
  4. **Fb** = (10 x E) = \_\_\_\_\_

### C. SHADE COVERAGE AREAS:

1. **S** = Total covered but unenclosed structural exterior area attached to the building and measured on a horizontal plane (see Figure 6) \_\_\_\_\_ sf
  - a. The floor area of covered exterior balconies may be included. Attached canopies, porches, verandas, and other shade oriented structural design features may also be included.
  - b. Each vertical opening into the shaded area must be framed on the top and sides by structural building materials. The area around the "frame" of the opening must be at least 20% of the opening area (see Figure 6)
  - c. The area under detached canopies shall not be included in the calculation.
2. **G** = Total area of the interior ground floor of the build \_\_\_\_\_ sf
3. **C** = ratio of  $\frac{S}{G}$  = \_\_\_\_\_
4. **Fc** = (100 x C) = \_\_\_\_\_

### D. EXTERIOR WALL INTERRUPTIONS:

1. **W'** = Total number of windows, doors, and other openings into the structure through which light may pass. \_\_\_\_\_

For the purpose of this calculation, each opening must be framed on the sides, top and/or bottom by structural building- materials that equals in surface area to at least 50% of the surface area of the opening.
2. **Q** = As previously calculated in Subsection B (2) (c) above (total number of visible sides from the street) \_\_\_\_\_
3. **O** = ratio of  $\frac{W'}{Q}$  = \_\_\_\_\_
4. **Fd** equals the ratio of **O** above, if total floor area is less than 50,000 sf. If floor area is greater than or equal to 50,000 s.f., **Fd** shall be no more than 10 points  
\_\_\_\_\_

If floor area is greater than or equal to 50,000 s.f., **Fd** shall be no more than 8 points

## **E. ARCHITECTURAL DESIGN TREATMENTS:**

The intent of this section is to promote better architecture & visual interest.

1. Combination of (3) three or more approved building materials on the primary building facade. **2 points**

2. Additional landscaping @ primary façade (per 100 square feet). **2 points**

3. A combination of (3) three of the following building design treatments. **2 points**

A. Canopy or portico

B. Peaked roof forms

C. Overhangs a minimum of (3) ft. wide with a minimum of a (6) inch wide fascia

D. Arcade a minimum of (6) ft. wide

E. Display windows a minimum of (4) ft. wide & (6) ft. high

F. Ornamental & structural details integrated into the building structure

G. Clock or bell tower

H. Sculptured art work (excluding advertising)

I.. Awnings over windows & doors

J. Arches or arched forms

K. Raised parapet with coenice over primary entrance

L. Decorative lampposts

M. Any other treatment that staff feels meets the intent of this Section

**E. Architectural Design Treatments: = \_\_\_\_\_ points**

## **F. Façade Detail Treatments:**

The intent of this section is to provide visual interest by adding (2) two or (3) three of the following: detail features to the primary facade. All design elements shall repeat at intervals of no more than (25) ft. either vertically or horizontally.

A combination of (2) two of the following features: **2 points**

A combination of (3) of the following features: **3 points**

Each additional (2) two features: **1 point**

- A. Building step backs, offsets or projections a minimum of (3) ft. wide
- B. Color change
- C. Texture & / or material change
- D. Architectural banding
- E. Pattern change
- F. Soldiered columns
- G. Trellises
- H. Expression of a vertical architectural treatment a minimum of (12) in. Wide
- I. Recessed panels
- J. (3) three or more roof planes
- K. Outdoor patio area with landscaping, with shading & seating components

**F. Facade Detail Treatments: = \_\_\_\_\_ points**

**TOTAL DESIGN SCORE: Fa + Fb + Fe + Fd + E + F = \_\_\_\_\_ points**

<b>Points Required:</b>	<b>Commercial/Retail</b>	<b>= 25 points</b>
	<b>Office/Institutional</b>	<b>= 20 points</b>
	<b>Industrial</b>	<b>= 10 points</b>

## Cobb County Architectural Design GUIDELINE WORKSHEET

### A. Exterior Wall Length:

\_\_\_1. **L** = Length in feet of building perimeter visible from the street.  
\_\_\_\_\_ ft.

\_\_\_2. **F** = Length of longest horizontal straight section of the exterior facade  
visible from the street \_\_\_\_\_ ft

\_\_\_3. **W** = ratio of  $L / F =$  \_\_\_\_\_.

\_\_\_4. **Fa** =  $W \times 2 =$  \_\_\_\_\_.

### B. Exterior Surface Areas:

\_\_\_1. **P** = Total surface area of all flat and/or projected, non-sloping, sides of  
the building visible from the (i.e. the flat vertical exterior walls of  
the building) (see Figure 4). \_\_\_\_\_ s.f.

\_\_\_2. **R** = Total surface area of all sloping surfaces of the building that are  
visible from the street (i.e., roof of building) (see Figure 4).  
\_\_\_\_\_ s.f.

\_\_\_3. **E** = ratio of  $= R / P =$  \_\_\_\_\_.

\_\_\_4. **Fb** =  $10 \times E =$  \_\_\_\_\_.

### C. Shade Coverage Variables:

\_\_\_1. **S** = Total covered but unenclosed structural exterior area attached to  
the building and measured on a horizontal plane. (see Figure 6)  
\_\_\_\_\_ s.f.

\_\_\_2. **G** = Total area of the interior ground floor of the building.  
\_\_\_\_\_ s.f.

\_\_\_3. **C** = Shade coverage ratio or  $S / G =$  \_\_\_\_\_.

\_\_\_4. **Fc** =  $90 \times C =$  \_\_\_\_\_.

**D. Exterior Wall Interruptions:**

- \_\_\_1. **W** = Total number of windows, doors and other openings into the structure through which light may pass = \_\_\_\_\_.
- \_\_\_2. **Q** = Total number of building's visible sides from the street \_\_\_\_\_.
- \_\_\_3. **O** = Ratio of W / Q \_\_\_\_\_.
- \_\_\_4. **Fd** is the ratio of O above, if total floor area is less than 50,000 s.f. For floor area greater than or equal to 50,000 s.f., "Fd" shall not exceed 10 points \_\_\_\_\_.

**E. Architectural Design Treatments: = \_\_\_\_\_points**

**F. Facade Detail Treatments: = \_\_\_\_\_points**

**G. Total Design Score: \_\_\_\_\_points**

**TOTAL = Fa + Fb + Fc + Fd + E + F = \_\_\_\_\_**

**Staff Comment:**



## DEFINITIONS/USE OF TERMS

**Aggregate** – Any of a variety of materials, such as sand and gravel, added to a cement mixture to make concrete.

**Arcading** – A series of arches, raised on columns, that are represented in relief as decoration of a solid wall.

**Articulation** – Shapes and surfaces having joints or segments which subdivide the area or elements and which add scale and rhythm to an otherwise plain surface.

**Assessed Value** – The most recently appraised value of a structure according to the Cobb County Tax Assessors Office.

**Balcony** – A projecting platform usually on the exterior of a building, sometimes supported from below by brackets, wood, metal or masonry.

**Baluster** – One of a number of short vertical members used to support a stair railing.

**Band** – A flat horizontal fascia, or a continuous member or series of moldings projecting slightly from the wall plane, encircling a building or along a wall, that makes a division in the wall.

**Bond** – an arrangement of masonry units laid in a particular pattern that provides a contrasting stringcourse to the primary buildings masonry pattern.

**Border** – A margin, rim, or edge around or along an element; a design or a decorative strip on the edge of an element.

**Bracket** – A projection from a vertical surface providing structural or visual support under cornices, balconies, windows, or any other overhanging member.

**Building material** – Any material used in the construction of buildings, such as steel, concrete, brick, masonry, glass, wood, among others.

**Canopy** – A covered area which extends from the wall of a building, protecting an enclosure such as a door or window.

**Cap** – The top member of any vertical architectural element that projects such as the cornice of a wall or the transom of a door.

**Coping** – A protective covering over the top of a wall or parapet, either flat or sloping and sometimes extending beyond the front wall.

**Corbel** – A series of graduated projections, beginning at the face of the wall and progressing outward and upward, that serves as a support for a top cornice.

**Concave** – Forms that are curved like the inner surface of a hollow circle.

**Convex** – Forms that have a surface or boundary that curves outward as in the exterior or outer surface of a circle.

**Cornice** – A projecting shelf along the top of a wall supported by a series of brackets; the ornamental exterior trim where the building's roof meets the wall.

**Crenellation** – A pattern of repeated depressed openings in a parapet wall.

**Door** – A hinged, sliding, tilting, or folding panel for closing openings in a wall or at entrances to buildings, rooms, or cabinets and closets.

**Dressing** – Masonry and moldings of better quality than the facing materials, used around door and window openings or at corners of buildings.

**Eave** – The projecting overhang at the lower edge of a roof that sheds rain water.

**Elevation** – A drawing showing the vertical, exterior elements of a building as a direct projection to a vertical plane.

**Façade** – The main exterior face of a building, particularly one of its main sides facing a public space, almost always containing one or more entrances and noted by elaborate exterior stylistic details.

**Fenestration** – The design and placement of windows and other exterior openings in a building.

**Floor Area** – The gross horizontal area of the floor(s) of a building, excluding porches, balconies, etc and measured from the exterior face of the exterior walls of a building.

**Frieze** – An elevated horizontal continuous band or panel that is usually located below the cornice, and often decorated with a repeated pattern.

**Gable** – The entire triangular end of a wall, above the level of the eaves, that conforms to the slope of the roof to which it abuts.

**Horizontal** – Operating or in the direction of a plane along the horizon or a base line.

**Intervening** – to occur, disrupt, or come between points.

**Mansard roof** – A roof with a steep lower slope and a flatter upper slope on all sides, either of convex or concave shape.

**Masonry** – A building material that includes all stone products, all brick products and all concrete block units, including decorative and customized blocks.

**Molding** – a decorative profile given to architectural cavities or projections such as cornices, bases, or door and window jambs/heads.

**Parallel** – extending in the same direction and not meeting or intersecting.

**Parapet** – A low protective wall or railing along the edge and above a roof, balcony, or similar structure.

**Perimeter** – The outer boundary of a closed plane diagram or figure.

**Plane** – The simplistic kind of two-dimensional surface, generated by the path of a straight line and defined by its length and width; usually defined by its shape and surface characteristics.

**Porch** – A roofed entrance, either incorporated in a building or as an applied feature to the exterior.

**Quoin** – One of a series of stones or bricks used to mark or visually reinforce the exterior corners of a building and often through a contrast of size, shape, color or material.

**Rectangular** – A plane four-sided parallelogram with four right angles: may be nearly square or stretched out to be nearly a band.

**Relief** – A projecting wall decoration raised above the background plane.

**Rendering** – a drawing of a building that artistically delineates materials, scale, shades, and is done for the purpose of presentation.

**Ridge** – The horizontal lines at the junction of the upper edges of two sloping roof structures.

**Rhythm** – Any kind of movement characterized by the regular occurrence of elements, lines, shapes and forms.

**Soffit** – A ceiling or exposed underside surface of a roof overhang, archway, balcony, beam or column.

**Soldier Bond** – Brick, block or stone laid vertically with the longer, narrow face exposed.

**Veranda** – Similar to a balcony but located on the ground level and can extend around one, two or all sides of a building.

**Vertical** – opposite to the plane of the horizon, usually a direction rising straight upward and downward.

**Window** – An opening in an exterior wall of a building to admit light and air.

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## **427 URBAN DESIGN STANDARDS**

### **Conceptual Master Plan Required:**

Prior to submitting for plan review or any type of permits, any development/redevelopment project utilizing these urban design standards will require a conceptual plan approval including but not limited to: streetscapes, building heights, land use mixture and connection, pedestrian access, architectural design, etc.

### **Intent:**

- Create a more “urban” environment where people can live, work, shop, be entertained and recreate;
- Improve the aesthetics of the built environment;
- Encourage a compatible mixture of residential, office, commercial, entertainment and open spaces uses within the area as a whole;
- Provide a pedestrian-oriented “Core” district that is safe, pleasant, convenient and highly conducive to walking.
- Encourage opportunities for the inclusion of pedestrian amenities including streetscapes, plazas, open spaces, public art, and public signage;
- Minimize conflicts between pedestrians, vehicles and bicycles;
- Protect the natural resources of the nearby adjacent parkland and facilitate better connections to the park and;
- Prevent the encroachment of incompatible commercial uses into residential areas;
- Restrict land uses that are incompatible with the district;
- Provide sufficient parking in an unobtrusive manner;
- Encourage shared parking arrangements and allow for off-site parking;
- Encourage mixed-use development within the “Core” and particularly around anticipated transit stops; and
- Provide sufficient, safe and accessible open space for active and passive enjoyment by residents and workers.

## **Urban Design Policies:**

- Proposals should seek to improve internal mobility within sites by allowing for pedestrian through-ways, internal streets, etc. Super-block development should be strongly discouraged, particularly when it interrupts the overall pedestrian circulation system of the area as a whole. In practice this may be difficult to achieve because it will require some degree of coordination
- Proposals should seek to improve internal mobility within sites by allowing for pedestrian throughways, internal streets, etc. Super-block development should be strongly discouraged, particularly when it interrupts the overall pedestrian circulation system of the area as a whole. In practice this may be difficult to achieve because it will require some degree of coordination between various developments and create areas of the site that is open to the public. To the extent possible, redevelopment of large super-blocks should seek to dedicate new internal streets back to the public realm to avoid public-private issues of liability.
- In general, developments around proposed LRT stations stops should incorporate higher levels of density than outlying developments in an effort to have the greatest impact on traffic demand in the area. Furthermore, developments around LRT stations should be designed in order to maximize rather than hinder public access to stations.
- Similarly, higher density development should be concentrated away from transitional areas.
- Proposals should be mindful of traffic ingress and egress situations by not dispersing all traffic out in the same location at the same time of day. To the extent possible, there should be a variety of options for vehicles so as not to overburden any particular street within the network. However, new development should be strongly discouraged from providing non-residential vehicular access through residential areas.